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**Oceans and the law of the sea**

# Oceans and the law of the sea

## Report of the Secretary-General**

**Addendum**

*Summary*

The present report has been prepared pursuant to the request of the General Assembly in paragraph 202 of its resolution 64/71 that the Secretary-General submit to the Assembly at its sixty-fifth session a comprehensive report on developments and issues relating to ocean affairs and the law of the sea, including the implementation of the resolution. It is also being submitted to States parties to the United Nations Convention on the Law of the Sea, pursuant to article 319 of the Convention.

* A/65/150.

** Owing to the page limit, this report contains a mere summary of the most important recent developments and selected parts of contributions by relevant agencies, programmes and bodies.

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# I. Introduction

1. The present report provides an overview of developments in ocean affairs and the law of the sea. It is intended to assist the General Assembly in its annual review and evaluation of the implementation of the United Nations Convention on the Law of the Sea ("the Convention") and other developments related to ocean affairs and the law of the sea. It should be read in conjunction with the first part of the report of the Secretary-General on oceans and the law of the sea (A/65/69), which addressed the topic of focus of the eleventh meeting of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea, namely capacity-building in ocean affairs and the law of the sea, including marine science; the addendum to the report of the Secretary-General (A/65/69/Add.1), which presents a summary of the views received from States on the fundamental building blocks of the Regular Process for global reporting and assessment of the state of the marine environment, including socio-economic aspects; the report of the Secretary-General to the resumed Review Conference on the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (A/CONF.210/2010/1) and the report of that Conference (A/CONF.210/2010/7); the report on the outcome of the meeting of the Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction (A/65/68); the report on the work of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea at its eleventh meeting (A/65/164); and the report of the twentieth Meeting of States Parties to the Convention (SPLOS/218).

# II. The United Nations Convention on the Law of the Sea and its implementing agreements

## A. Status of the Convention and its implementing agreements

2. As at 31 August 2010, there were 160 parties to the Convention, including the European Union, as a result of its ratification by Chad on 14 August 2009. On that date, Chad also expressed its consent to be bound by the Agreement relating to the implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982, bringing the number of parties to the Agreement to 138. The number of parties to the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (United Nations Fish Stocks Agreement) rose to 77 as a result of the ratification by Indonesia (28 September 2009) and Nigeria (2 November 2009).

3. The following States made declarations in relation to articles 287 and 298 of the Convention: Angola made declarations under articles 287 and 298 on 14 October 2009; Bangladesh made declarations relating to article 287 with respect to India and Myanmar on 14 December 2009; Ghana made a declaration relating to article 298 on 15 December 2009; and Myanmar made a declaration under article 287 with respect to Bangladesh on 4 November 2009, which was subsequently withdrawn on 14 January 2010.

## B. Meeting of States Parties

4. The twentieth Meeting of States Parties to the Convention was held at United Nations Headquarters from 14 to 18 June 2010. The Meeting took note with appreciation of the report of the International Tribunal for the Law of the Sea for 2009 (SPLOS/204) and of the information reported by the Secretary-General of the International Seabed Authority and the Chairman of the Commission on the Limits of the Continental Shelf.

5. The Meeting considered the budgetary matters of the Tribunal and took note of the reports on budgetary matters for the financial periods 2007-2008 and 2009-2010 (SPLOS/205), on the nomination of a member and an alternate member to the staff pension committee of the Tribunal (SPLOS/206) and on issues relating to the adjustment of the remuneration of members of the Tribunal (SPLOS/207 and Corr.1) as well as the draft budget proposals of the Tribunal for 2011-2012 (SPLOS/2010/WP.1).[1]

6. The Meeting approved the budget of the Tribunal for 2011-2012, amounting to €20,398,600, together with the staffing tables for the Registry of the Tribunal for 2011-2012 (SPLOS/217).

7. The Meeting considered the workload of the Commission in the light of the letter dated 30 April 2010 from the Chairperson of the Commission to the President of the twentieth Meeting (SPLOS/209) and a presentation made by the Chairperson. The Coordinator of the informal working group on the workload of the Commission established at the nineteenth Meeting of States Parties reported on the work of the working group and introduced document SPLOS/212, entitled "Possible elements for inclusion in the draft decision of the twentieth Meeting of States Parties on the workload of the Commission on the Limits of the Continental Shelf". The Meeting also had before it a note by the Secretariat on issues related to the workload of the Commission (SPLOS/208).

8. Following deliberations on the matter, an open-ended working group was established. The Meeting adopted a decision regarding the workload of the Commission (SPLOS/216).

9. The Meeting also held an exchange of views on the report submitted by the Secretary-General under article 319 of the Convention (see SPLOS/203, paras. 103-116).

## C. Resumed Review Conference on the United Nations Fish Stocks Agreement

10. The resumed Review Conference on the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks[2] was held at United Nations Headquarters from 24 to 28 May 2010 pursuant to General Assembly resolutions 63/112 and 64/72. The resumed Review Conference assessed the effectiveness of the Agreement

[1] For further details, see SPLOS/218, paras. 13-57.

[2] United Nations, *Treaty Series*, vol. 2167, No. 37924.

in securing the conservation and management of straddling fish stocks and highly migratory fish stocks. It conducted a review of the implementation of the recommendations adopted at the Review Conference in 2006. The report of the Secretary-General to the resumed Review Conference[3] and the report of the resumed Review Conference[4] are available on the website of the Division for Ocean Affairs and the Law of the Sea of the Office of Legal Affairs.[5]

11. The resumed Review Conference adopted recommendations addressed to States and regional economic integration organizations.[6] It also recommended that the informal consultations of States parties to the Agreement continue and that the Agreement be kept under review through the resumption of the Review Conference at a date not earlier than 2015.

# III. Maritime space

## A. Overview of recent developments regarding State practice, maritime claims and the delimitation of maritime zones

12. On 31 July 2009, the Secretariat received a communication from Angola in respect of the transmission by the Government of the Democratic Republic of the Congo of "Preliminary information for the Commission on the Limits of the Continental Shelf, pursuant to article 76, paragraph 8, of the United Nations Convention on the Law of the Sea of 1982, concerning the Gulf of Guinea region" and of the "Law delimiting the maritime areas of the Democratic Republic of the Congo" (see A/64/66/Add.1, para. 21). On 14 June 2010, the Secretariat received a note verbale from the Democratic Republic of the Congo concerning the preliminary information by Angola and the communication referred to above.

13. On 16 September 2009, the Secretary-General received a letter dated 1 September 2009 from the Minister for Foreign Affairs of Guatemala informing him of the position of Guatemala with regard to the Treaty on maritime delimitation between the Government of the Republic of Honduras and the Government of the United Mexican States, signed in Tegucigalpa on 18 April 2005.

14. On 7 October 2009, Denmark transmitted the decree dated 17 September 2009 amending the Decree on the Fishing Territory off the Faroe Islands.

15. On 16 November 2009, the Secretary-General received a communication from Saudi Arabia dated 16 November 2009 stating the position of Saudi Arabia with respect to the memorandum of the United Arab Emirates concerning the Joint Minutes signed on 5 July 2008 on the land and maritime boundaries to the Agreement of 4 December 1965 between the State of Qatar and the Kingdom of Saudi Arabia on the delimitation of the offshore and land boundaries.

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[3] A/CONF.210/2010/1.

[4] A/CONF.210/2010/7.

[5] Also see the report of the ninth round of informal consultations of States parties to the Agreement (ICSP9/UNFSA/INF.4), which was held in New York from 16 to 17 March 2010 and served as a preparatory meeting for the resumed Review Conference.

[6] See A/CONF.210/2010/7, annex.

16. On 25 November 2009, the Secretary-General received a communication from Saudi Arabia dated 24 November 2009 concerning the issue of the publication of maps in accordance with the Agreement on the delimitation of boundaries between Saudi Arabia and the United Arab Emirates of 21 August 1974. The Secretary-General has also received a communication from the United Arab Emirates dated 27 December 2009, stating that parts of that agreement could not be implemented.

17. On 8 January 2010, the Secretary-General received a note verbale dated 6 January 2010 from the Libyan Arab Jamahiriya, transmitting the decision concerning the declaration of the exclusive economic zone of the Libyan Arab Jamahiriya, adopted on 27 May 2009.

18. On 2 March 2010, the Secretariat received a note verbale from Somalia transmitting a letter dated 10 October 2009 from the Prime Minister of the Transitional Federal Government of Somalia informing the Secretary-General that the "Memorandum of Understanding between the Government of the Republic of Kenya and the Transitional Federal Government of the Somali Republic to grant to each other no-objection in respect of submissions on the outer limits of the continental shelf beyond 200 nautical miles to the Commission on the Limits of the Continental Shelf" (see A/64/66/Add.1, para. 20) had been rejected by the Transitional Federal Parliament of Somalia, and was hence to be treated as non-actionable.

19. On 13 April 2010, the Secretary-General received a communication from the United Arab Emirates dated 12 April 2010, transmitting copies of a note dated 15 March 2010 from the United Arab Emirates to Saudi Arabia protesting against incursions by patrol boats of Saudi Arabia into the territorial sea of the United Arab Emirates and of a note dated 21 March 2010 from the United Arab Emirates to Saudi Arabia concerning maritime boundary delimitation between the two countries.

20. On 1 July 2010, the Secretary-General received a note verbale dated 1 July 2010 from Vanuatu, transmitting the latter's Maritime Zones Act No. 06 of 2010.

21. Information on other developments, as well as the texts of national legislation acts, maritime boundary delimitation treaties and relevant communications received by the Secretariat, have been published in the *Law of the Sea Bulletin*, Nos. 71 to 73. Such information is also available on the website of the Division.

## B. Deposit and due publicity

22. On 14 August 2009, the Secretariat received a communication from Saudi Arabia dated 9 August 2009 relating to decision No. 5/2009 of the Ministerial Council of the United Arab Emirates (see A/64/66/Add.1, para. 26) and the maritime boundary between the two States. The Secretariat also received a response to that communication from the United Arab Emirates dated 12 November 2009.

23. On 19 August 2009, Ireland deposited with the Secretary-General, pursuant to article 76(9) of the Convention, a list of geographical coordinates of points, including geodetic datum, accompanied by an illustrative map, permanently describing the outer limits of its continental shelf beyond 200 nautical miles from the baselines from which the breadth of the territorial sea of Ireland is measured in the area abutting the Porcupine Abyssal Plain. The deposit was made on the basis of the recommendations of the Commission (see A/62/66/Add.1, paras. 41 and 42). The

Secretary-General gave due publicity to these outer limits through a Maritime Zone Notification[7] and the website of the Division.

24. On 31 August 2009, Grenada deposited, pursuant to articles 16(2) and 47(9) of the Convention, the list of geographical coordinates of points of closing lines defining the internal waters of Grenada as contained in the Statutory Rules and Orders No. 32 of 1992; and the list of geographical coordinates of points defining archipelagic baselines of Grenada as contained in the Statutory Rules and Orders No. 31 of 1992.

25. On 29 January 2010, India deposited, pursuant to article 16(2) of the Convention, a list of geographical coordinates of points defining the baselines of India, as contained in the Notifications of the Government of India dated 11 May 2009 and 20 November 2009.

26. On 5 March 2010, Saudi Arabia deposited, pursuant to article 16(2) of the Convention, lists of geographical coordinates of points defining the baselines of Saudi Arabia "in the Red Sea, the Gulf of Aqaba and the Arabian Gulf" as contained in Council of Ministers Resolution No. 15 dated 11 January 2010 and Royal Decree No. M/4 dated 12 January 2010. In connection with the deposit by Saudi Arabia, a communication from the Government of the United Arab Emirates was received on 5 May 2010.

27. On 1 July 2010, Vanuatu deposited, pursuant to articles 16(2) and 47(9) of the Convention, lists of geographical coordinates of points defining the normal and archipelagic baselines of Vanuatu, as contained in the Ministerial Order No. 81 of 29 July 2009, accompanied by an illustrative map.

28. On 15 July 2010, Lebanon deposited, pursuant to article 75(2) of the Convention, charts and a list of geographical coordinates of points defining the southern limit of the exclusive economic zone of Lebanon.

## C. Commission on the Limits of the Continental Shelf

29. The Commission held its twenty-fourth session from 10 August to 11 September 2009, the resumed parts of its twenty-fourth session from 2 to 6 November and from 7 to 11 December 2009, its twenty-fifth session from 15 March to 23 April 2010 and its twenty-sixth session from 2 August to 3 September 2010.[8]

30. During these sessions, the Commission considered and adopted recommendations in respect of the following submissions: the submission made by France in respect of the areas of French Guiana and New Caledonia; the submission made by Barbados; and the submission made by the United Kingdom of Great Britain and Northern Ireland in respect of Ascension Island.

31. The Commission continued the examination, by way of subcommissions, of the submission made by Indonesia in respect of North West of Sumatra Island, and of the submission made by Japan. It also established new subcommissions to consider the joint submission made by Mauritius and Seychelles in respect of the

[7] M.Z.N.73.2009.LOS of 26 October 2009.

[8] More details on the work of the Commission at its twenty-fourth, resumed twenty-fourth, twenty-fifth and twenty-sixth sessions are contained in documents CLCS/64, CLCS/66 and CLCS/68.

Mascarene Plateau, the submission made by Suriname and the submission made by France in respect of the French Antilles and the Kerguelen Islands.

32. Formal presentations of 25 submissions were made by coastal States in the plenary of the Commission.

### 1. Submissions by Mozambique and Maldives and preliminary information from Nicaragua

33. The Commission received two new submissions, on 7 July 2010 from Mozambique and on 26 July 2010 from Maldives, bringing the total number of submissions received to date to 53. One set of preliminary information, in accordance with paragraph 1 (a) of the decision of the Meeting of States Parties in document SPLOS/183, was received from Nicaragua on 7 April 2010.[9]

### 2. Workload of the Commission

34. At its twenty-fourth session, the Commission took note of the agreed outcome of the nineteenth Meeting of States Parties on issues related to its workload and decided that, until new arrangements improving the working conditions of the Commission and its members were in place, the work of the Commission would continue in the existing manner consistent with its rules of procedure.[10]

35. At its twenty-fifth session, the Commission, at the invitation of the Coordinator of the informal working group of the Meeting of States Parties on the workload of the Commission, attended a meeting of the informal working group held on 14 April 2010. At that meeting, the Commission delivered a presentation on its workload. The Commission also decided that its Chairperson would make a presentation to the twentieth Meeting of States Parties.[11]

36. At its twenty-sixth session, the Commission reviewed the decision of the twentieth Meeting of States Parties regarding the workload of the Commission.[12] It noted that the measures proposed therein had already been largely applied by the Commission and highlighted that working on a full-time basis at United Nations Headquarters represented the most efficient and effective measure for the Commission to address its growing workload.[13]

### 3. Informal working group of the Meeting of States Parties on the workload of the Commission

37. The informal working group[14] continued consideration of the issues related to the increased workload of the Commission. As at end June 2010, the Informal Working Group had held eight meetings.

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[9] Details on all submissions received by the Commission and on preliminary information are available on the website of the Commission at, respectively, www.un.org/depts/los/clcs_new/commission_submissions.htm and www.un.org/Depts/los/clcs_new/commission_preliminary.htm.

[10] See CLCS/64, para. 122.

[11] More details on the issue of the workload of the Commission, including its presentation to the Meeting of States Parties and the Informal Working Group, are available online at www.un.org/Depts/los/clcs_new/clcs_workload.htm.

[12] SPLOS/216.

[13] See CLCS/68.

[14] See SPLOS/203, para. 95.

38. The Coordinator of the informal working group reported to the twentieth Meeting of States Parties on the progress of the Group's work (see para. 7 above).

### D. Geographic Information System facilities

39. Since the entry into force of the Convention, the Division for Ocean Affairs and the Law of the Sea has maintained and developed facilities for the custody of charts and lists of geographical coordinates deposited with the Secretary-General.[15] The system for informing Member States, including States parties to the Convention, about the deposits has consisted mainly of circulation of maritime zone notifications and of publication of the lists of coordinates in the *Law of the Sea Bulletin* and on the website of the Division. Hard copies of the deposited charts have been made available upon request.

40. In paragraph 6 of its resolution 59/24 of 17 November 2004, the General Assembly requested the Secretary-General to improve the existing Geographic Information System for the deposit by States of charts and geographical coordinates concerning maritime zones, including lines of delimitation, in particular by implementing, in cooperation with relevant international organizations, such as the International Hydrographic Organization (IHO), the technical standards for the collection, storage and dissemination of the information deposited, in order to ensure compatibility among the Geographic Information System, electronic nautical charts and other systems developed by those organizations.

41. The efforts to develop a product specification on the basis of IHO publication S-100 (Universal Hydrographic Data Model) and the forthcoming special publication S-101 (Electronic Navigational Chart Product Specification) are still ongoing. If and when adopted by IHO, the product specification would enable the Division to structure a Geographic Information System database containing the deposited information and data and make it available to States and other users through the Division's Internet services in a format compatible with electronic nautical charts.

## IV. Bodies established by the United Nations Convention on the Law of the Sea

### A. International Seabed Authority

42. The Assembly of the International Seabed Authority held its sixteenth session in Kingston, Jamaica, from 26 April to 7 May 2010. The Authority's members examined the report of its Secretary-General (ISBA/16/A/2).

43. At that session, the Assembly adopted the draft regulations on prospecting and exploration for polymetallic sulphides in the international seabed area beyond the limits of national jurisdiction.[16]

44. The Assembly also adopted the budget for the Authority's 2010-2011 operations and proposed amendments to the Staff Regulations of the Authority,

[15] See General Assembly resolution 52/26 of 6 December 1994.

[16] See ISBA/16/C/L.5.

recognizing the new United Nations Appeals Tribunal and reflecting other changes made to the Staff Regulations of the United Nations.[17]

45. It was also decided that for the 2011 election, the size of the Legal and Technical Commission could be increased to 25 members, having due regard to economy and efficiency and without prejudice to future elections.[18]

46. On 14 May 2010, the Council of the Authority submitted a request to the Seabed Disputes Chamber of the International Tribunal for the Law of the Sea for an advisory opinion, pursuant to article 191 of the Convention, on the responsibility and liability of sponsoring States for activities in the Area, as originally proposed by the Government of Nauru.[19]

47. The Authority's seventeenth session will be held in Kingston from 26 April to 6 May 2011.[20]

### B. International Tribunal for the Law of the Sea[21]

48. On 4 November 2009, the President of the Tribunal, Judge José Luis Jesus, addressed an informal meeting of the Sixth (Legal) Committee of the General Assembly. He gave an overview of the work and jurisdiction of the Tribunal. He also addressed the informal meeting of legal advisers of ministries of foreign affairs at the United Nations in New York.

49. On 9 March 2010, at the invitation of Judge Jesus, the Legal Counsel of the United Nations, Patricia O'Brien, paid a visit to the Tribunal.

50. A detailed description of the Tribunal's activities is contained in its annual report for 2009 (SPLOS/204) and in the report of the twentieth Meeting of States Parties to the Convention (SPLOS/218) (see also paras. 393-398 below).

## V. Developments relating to international shipping activities

### A. Economics of shipping

51. The international shipping industry is indispensable to the global economy, carrying approximately 90 per cent of world trade. It allows for intercontinental trade, the bulk transport of raw materials and the import and export of affordable food and manufactured goods.[22]

52. At the beginning of 2009, the world merchant fleet reached 1.19 billion deadweight tons, which represented an increase of 6.7 per cent over 2008. This growth was mainly the result of vessel orders placed before the financial crisis, when the industry was still expecting continued high growth in shipping. World container port throughput increased in 2008 by an estimated 4 per cent to reach 506 million

[17] See ISBA/16/C/4.
[18] See ISBA/16/C/3.
[19] See ISBA/16/C/6.
[20] See website of the International Seabed Authority at www.isa.org.jm.
[21] See the press releases of the Tribunal issued as ITLOS/Press 137, 138, 144 and 145.
[22] See www.marisec.org/shippingfacts/keyfacts.

twenty-foot equivalent units,[23] but declined to approximately 457 million units in 2009. Despite these declines, the maximum vessel size continued to increase. Growth in the world merchant fleet was expected to continue in 2010.[24]

53. The United Nations Conference on Trade and Development (UNCTAD) estimated that global seaborne trade decreased by 4.5 per cent to 7.8 billion tons in 2009. As a consequence of deceleration of demand growth and oversupply of new vessels, the shipping industry was confronted with tumbling charter and freight rates. The Baltic Exchange Dry Index, which is a composite of shipping prices for various dry bulk products, experienced a record high in May 2008, followed by a severe decline of more than 90 per cent by the end of the year when the global financial crisis and the subsequent economic downturn set in. By mid-2009, freight rates had partially recovered to approximately 40 per cent of their 2008 peak level.

54. A recent study by UNCTAD indicated that increases in oil prices drove up maritime freight rates, especially in periods of sharply rising and more volatile oil prices.[25] This has implications for maritime transport and trade in view of the projected growth in oil prices over the coming decades.[26] This may also be of particular concern to developing countries that already face considerable obstacles from international transport costs.[27]

55. The importance of international shipping for sustainable development has also attracted increasing attention from the international community. The Economic Commission for Africa reported that the shipping industry continued to be dominated by non-African actors and entities, and it encouraged capacity-building activities to allow African entities to participate in the economic activity of shipping and benefit equally from it.[28]

56. In the Pacific region, the Asia Development Bank published a report entitled "Oceanic Voyages: Aviation and Shipping in the Pacific Region", which provided extensive analysis and data relating to operations, market structure and national legislative and regulatory frameworks governing international shipping activities in the region.[29]

## B. Safety of navigation

### 1. Safety of ships

57. At its eighty-seventh session, held in May 2010, the Maritime Safety Committee of the International Maritime Organization (IMO) adopted international goal-based ship construction standards for bulk carriers and oil tankers.[30] The new standards will ensure that newly constructed vessels comply with structural

[23] The twenty-foot equivalent unit is the standard measurement for container transport.
[24] UNCTAD contribution. See also UNCTAD, *Review of Maritime Transport 2009*.
[25] See document UNCTAD/DTL/TLB/2009/2, available at www.unctad.org/en/docs/dtltlb20092_en.pdf.
[26] UNCTAD contribution.
[27] Contribution of the Department of Economic and Social Affairs of the Secretariat.
[28] Contribution of the Economic Commission for Africa.
[29] Contribution of the Asian Development Bank. The report is available at www.adb.org/Documents/Studies/Oceanic-Voyages/default.asp.
[30] IMO documents MSC 87/26 and MSC 87/26/Add.1, annex 1.

standards conforming to functional requirements developed and agreed upon by the Committee. The Committee also adopted guidelines for the verification of compliance with the goal-based standards,[31] guidelines for the information to be included in a ship construction file[32] and a time frame and schedule of activities for the implementation of the goal-based standards scheme.[33]

58. In order to make the goal-based standards mandatory for new ships, the Committee also adopted amendments to the International Convention for the Safety of Life at Sea, 1974 which are expected to enter into force on 1 January 2012.[34] The amendments will require ships to be designed and constructed to be safe and environmentally friendly, when properly operated and maintained under the specified operating and environmental conditions, in intact and specified damage conditions, throughout their life.

59. At the same session, the Committee adopted a number of additional resolutions relating to the safety of ships, including performance standards for bridge alert management,[35] amendments to the international code for fire safety systems,[36] amendments to the revised recommendation on testing of life-saving appliances[37] and amendments to the code of safety for special purpose ships.[38] The Committee also adopted amendments to the international life-saving appliance code,[39] but agreed to postpone to its eighty-eighth session the adoption of additional amendments relating to lifeboat release mechanisms.

60. At its twenty-sixth session, in 2009, the IMO Assembly adopted guidelines for ships operating in polar waters, which are intended to apply to ships constructed on or after 1 January 2011, although Governments are invited to apply the guidelines as far as possible before that date.[40] The guidelines are based on the guidelines for ships operating in Arctic ice-covered waters, but have been substantially updated and extended to cover the sea area off the Antarctic. The IMO Assembly also adopted a code on alerts and indicators, which is intended to provide general design guidance and to promote uniformity of type, location and priority for alerts and indicators required under the International Convention for the Safety of Life at Sea, the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78), and other associated international instruments.[41]

## 2. Transport of dangerous goods

61. At the fifty-third regular session of the General Conference of the International Atomic Energy Agency (IAEA), in September 2009, measures were adopted to strengthen international cooperation in nuclear, radiation, transport and waste safety. With regard to the denial and delay of shipment of radioactive materials, IAEA

[31] IMO documents MSC 87/26 and MSC 87/26/Add.1, annex 12.
[32] IMO document MSC.1/Circ.1343.
[33] MSC 87/26/Add.1, annex 13.
[34] IMO contribution and IMO document MSC 87/26/Add.1, annex 4. See also A/63/63/Add.1, para. 53.
[35] IMO document MSC 87/26/Add.1, annex 21.
[36] Ibid., annex 6.
[37] Ibid., Annex 9.
[38] Ibid., Annex 16.
[39] Ibid., Annex 7.
[40] IMO document, A 26/Res.1024.
[41] Resolution A.1021(26), IMO document A 26/Res.1021.

emphasized the importance of maintaining dialogue and consultation aimed at improving mutual understanding, confidence-building and enhanced communication in relation to the safe maritime transport of radioactive material. In that context, IAEA welcomed the informal discussions that had taken place between relevant shipping States and coastal States, with its involvement.[42]

62. IAEA also noted the development of an action plan by the International Steering Committee on Denials of Shipment of Radioactive Material, and called upon its member States to nominate a national focal point for denials of shipment of radioactive material to assist the Steering Committee in its work. In addition, it called upon its member States to facilitate the transport of such radioactive material when it was carried in compliance with IAEA transport regulations.[43] In this regard, reports have indicated that specific carriers and ports have policies that effectively prohibit the carriage of radioactive material, despite compliance with IAEA safety standards. Concerns had thus been raised over the sustainability of the maritime transport infrastructure for radioactive material in certain areas of the world, as well as the ability of IAEA to deliver certain programmes, including programmes of a humanitarian nature.[44] It has been suggested that removal of shipping difficulties would reduce carbon emissions associated with specific package movements by as much as 50 per cent.[45]

63. Training activities have continued to raise awareness of issues relating to the transport of dangerous goods.[46,47]

64. The IMO Maritime Safety Committee adopted amendments to the International Maritime Dangerous Goods Code at its eighty-seventh session, in May 2010. They are expected to enter into force on 1 January 2012.[48] The Committee also adopted amendments to the Code of Practice for the Safe Loading and Unloading of Bulk Carriers, which are expected to become effective on 1 January 2011.[49]

### 3. Safe routes for international navigation and long-range identification and tracking of vessels

65. *Ships routing and reporting systems.* In its resolution A/26/1029 of 26 November 2009, the Assembly of IMO urged IMO member States and intergovernmental organizations to make ample use of the facilities for the reporting and transfer of data into the Global Integrated Shipping Information System (GISIS).[50] It also urged IMO member States to use the GISIS reporting facilities to sustain and enhance compliance with mandatory reporting requirements, including in the context of the Voluntary IMO Member State Audit Scheme (see para. 75

[42] IAEA document GC(53)/RES/10.

[43] Ibid.

[44] Since 2007, the IAEA Denial of Shipment Database has recorded 87 incidents of refusal to transport Cobalt-60, which is used to treat cancer or sterilize medical equipment and other medical sources (see www.iaea.org/NewsCenter/News/2010/lifesavingrsources.html).

[45] IAEA contribution.

[46] See www.iaea.org/NewsCenter/News/2009/radtransportafrica.html.

[47] IAEA contribution.

[48] IMO document MSC 87/26/Add.1, annex 8. It was agreed that parties to the International Convention for the Safety of Life at Sea could apply the amendments in whole or in part on a voluntarily basis one year earlier.

[49] IMO document, MSC 87/26/Add.1, annex 25.

[50] See http://gisis.imo.org/Public/.

below). In addition, the Assembly urged IMO member States to make as much use as possible of the GISIS reporting facilities regarding data to be provided on a non-mandatory basis and to support the development and harmonization of the collection of data provided voluntarily.[51]

66. At its eighty-seventh session, in May 2010, the IMO Maritime Safety Committee adopted amendments to the existing mandatory ship reporting systems in the Strait of Gibraltar[52] and in the Western European Particularly Sensitive Sea Area.[53] It also adopted a number of new and amended traffic separation schemes, as well as routeing measures other than traffic separation schemes.[54]

67. At the regional level, progress has been made in the development of new automatic identification system binary messages for maritime traffic in the Baltic Sea.[55] Consequently, at its eighty-seventh session, the Maritime Safety Committee approved new guidance on the use of automatic identification system application-specific messages.[56]

68. *Straits used for international navigation.* With respect to the Cooperative Mechanism between the littoral States of the Straits of Malacca and Singapore and user States on safety of navigation and environmental protection in the Straits, a joint technical arrangement was signed between the States bordering the Straits and IMO at the second cooperation forum held in Singapore in October 2009. The arrangement formalized the modalities for the utilization of the IMO Malacca and Singapore Straits Fund for safety and environmental protection in the Straits, which is a complement to the Aids to Navigation Fund of the Cooperative Mechanism.

69. *Safety zones around artificial islands, installations and structures in the exclusive economic zone.* Pursuant to article 60(5) of the Convention, safety zones around artificial islands, installations and structures in the exclusive economic zone shall not exceed a distance of 500 metres around them, except as authorized by generally accepted international standards or as recommended by the competent international organization. There are currently no established procedures and guidelines to determine a proposed extension to a safety zone. Accordingly, it has been proposed that the IMO Subcommittee on Safety of Navigation develop uniform procedures and guidelines by which such proposals on safety zones could be considered. At its fifty-fifth session, in July 2009, the Subcommittee established a correspondence group to develop relevant guidelines.[57]

70. *Long-range identification and tracking.* Further progress has been made by IMO in the completion of the establishment of the long-range identification and tracking system.[58] A total of 53 data centres have now been integrated into the

[51] IMO document A 26/Res.1029.
[52] IMO document MSC 87/26/Add.1, annex 19.
[53] IMO document MSC 87/26/Add.1, annex 20.
[54] IMO document MSC 87/26/Add.1, annexes 17 and 18.
[55] Contribution of the Baltic Marine Environment Protection Commission.
[56] IMO document SN.1/Circ.289.
[57] IMO document NAV/55/21, paras. 5.1-5.7.
[58] In accordance with the provisions of regulation V/19-1 of the International Convention for the Safety of Life at Sea, ships constructed on or after 31 December 2008 shall be equipped with a system to automatically transmit long-range identification and tracking information and ships constructed before 31 December 2008 shall transmit such information not later than the first survey of the radio installation after 31 December 2008.

system and a further 15 data centres are undergoing testing or are to be tested.[59] Parties to the International Convention for the Safety of Life at Sea have been encouraged to accelerate the establishment of their own data centres or make the necessary arrangements for using the services of an existing data centre, and to promote the use of long-range identification and tracking information at the national level.[60] The International Mobile Satellite Organization (IMSO), as the system coordinator, has developed a model services agreement and has signed 45 agreements with different Governments and data centre operators.[61]

71. At its eighty-seventh session, in May 2010, the IMO Maritime Safety Committee agreed on the establishment and operation of the international long-range identification and tracking data exchange by the European Maritime Safety Agency in Lisbon, initially for the years 2011, 2012 and 2013.[62] In addition, the Committee adopted a resolution on the establishment of a distribution facility for the provision of long-range identification and tracking information to security forces operating in waters of the Gulf of Aden and the western Indian Ocean to aid their work in the repression of piracy and armed robbery against ships (see para. 122 below).[63]

### 4. Hydrographic surveying and nautical charting

72. IHO reported that an almost 100 per cent coverage of electronic navigational charts had been achieved in order to support the use of the Electronic Chart Display and Information System, which would become a mandatory carriage requirement under the International Convention for the Safety of Life at Sea from 1 July 2012.[64] IHO is aware that, by the end of 2010, some small gaps in coverage will remain in Africa, the Arctic and the Caribbean, but gaps in areas frequented by significant levels of international traffic are planned to be filled as soon as possible.[65] To help clarify any uncertainties regarding the System, IHO has released a document giving facts about electronic charts and carriage requirements.[66] The IMO Sub-committee on Safety of Navigation is continuing to work on the development of an e-navigation strategy implementation plan.[67]

## C. Implementation and enforcement

73. Flag States have primary responsibility to have in place an adequate and effective system to exercise control over ships entitled to fly their flag and to ensure that their vessels comply with relevant international rules and regulations in respect of maritime safety, security and protection of the marine environment.[68] The Voluntary IMO Member State Audit Scheme aims to assist flag States in this regard by providing a comprehensive and objective assessment of how effectively they

[59] IMO and IMSO contributions.
[60] IMO contribution.
[61] IMSO contribution.
[62] IMO document MSC 87/26/Add.1, annex 14.
[63] IMO document MSC 87/26/Add.1, annex 15.
[64] International Hydrographic Bureau contribution.
[65] NAV/56/8/7, para. 3.
[66] See www.iho-ohi.net/iho_pubs/IHO_Download.htm, document S-66.
[67] MSC/87/26, para. 9.19.
[68] IMO document A 26/Res.1019.

administer and implement the mandatory IMO instruments covered by the Audit Scheme. The Audit Scheme also helps to identify where capacity-building activities would have the greatest effect, improves the targeting of appropriate action to increase performance, and provides generic lessons to all IMO member States so that the benefits of audits can be widely shared.[69] In addition, the results of audits can be systematically fed back into the regulatory process to improve the effectiveness of the international regulatory framework for shipping.[70]

74. At its twenty-sixth session, in 2009, the IMO Assembly endorsed the decision of the IMO Council[71] and agreed to make the Audit Scheme an institutionalized, mandatory scheme. The Assembly decided that the Audit Scheme would be phased in through the introduction of amendments to IMO instruments in 2013, for entry into force in January 2015.[72] In addition, the IMO Assembly adopted amendments to the Code for the Implementation of Mandatory IMO Instruments, which serves as the audit standard for the Audit Scheme.[73]

75. In regard to compliance, the IMO Assembly urged its member States to use GISIS reporting facilities to sustain and enhance compliance with mandatory reporting requirements, including in the context of the Audit Scheme (see para. 65 above).[74] The IMO Assembly also adopted amendments to the survey guidelines under the harmonized system of survey and certification to take account of amendments to IMO instruments that had entered into force or become effective since the previous amendments adopted by the twenty-fifth session of the IMO Assembly in 2007.[75]

76. The IMO Assembly adopted guidelines on implementation of the International Safety Management Code by administrations,[76] which became necessary when amendments to Code came into effect on 1 July 2010.[77] The International Chamber of Shipping and the International Shipping Federation published an updated edition of their guidelines on the application of the Code, with additional guidance on risk management, safety culture and environmental management.[78]

77. Port and coastal States also have an important role under international law in respect of maritime safety, security and protection of the marine environment, which is complementary to the role that flag States have in relation to effective control over their vessels. A number of States continue to coordinate their activities in this

[69] See IMO website at www.imo.org. The third consolidated audit summary report containing findings from nine audits is contained in IMO document A 26/9/1. A preliminary study on the review of the first three consolidated audit summary reports (FSI 18/INF.7) found that the major problems are in the area of flag State responsibilities and obligations. Fifty-eight per cent of the findings were related to flag State provisions.

[70] For further information, see www.imo.org/includes/blastDataOnly.asp/data_id%3D29766/VoluntaryIMOMemberStateAuditScheme%284October2010%29.pdf.

[71] See IMO documents C/ES.25/D, C 102/D and C 102/6/1. Also see A/64/66/Add.1, paras. 92 and 93.

[72] Ibid.

[73] See IMO document A 26/Res.1019. See also IMO document J/10131, 2009 consolidated version of the Code for the Implementation of Mandatory IMO Instruments, 2007.

[74] See IMO document A 26/Res.1029.

[75] See IMO documents A 26/Res.1020 and A 25/Res.997.

[76] See IMO document A 26/Res.1022.

[77] The new guidelines supersede the guidelines contained in IMO Assembly resolution A.913(22).

[78] See www.marisec.org/pressreleases.html#4.6.10.

regard in the context of regional port State control organizations.[79] A joint concentrated inspection campaign was carried out from September to November 2009 on the lifeboat launching arrangements under the International Convention for the Safety of Life at Sea.[80] The Paris Memorandum of Understanding on Port State Control will introduce a new inspection regime on 1 January 2011 that will change the target of inspecting 25 per cent of individual ships to a shared commitment to inspect all ships visiting ports and anchorages in the region as a whole.[81] A number of flag administrations have also been targeted for inspection in more than one port State control region.[82] An IMO progress report provides further information on recent developments and the current status of regional port State control agreements.[83]

78. The Regional Organization for Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA) reported that it had organized a training workshop in July 2010 on port State control in the Red Sea and Gulf of Aden, in partnership with IMO.

## D. Maritime casualties and incidents

79. In 2009, the Maritime Safety Committee of IMO established a group of experts to review formal safety assessment studies on cruise ships, roll-on roll-off passenger ferries, liquefied natural gas carriers and container ships.[84] On the basis of a report of the group of experts,[85] the Maritime Safety Committee, at its eighty-seventh session in May 2010, urged IMO member States to report their casualty investigations to the GISIS casualty database.[86] The Committee also endorsed a recommendation to consider amendments to the formal safety assessment guidelines, as well as the guidance on use of the human element analysing process and formal safety assessment, and established a correspondence group to this end.[87]

80. IMO has issued an analysis of over 100 casualties aimed at identifying overall trends or issues of potential concern, based on casualty reports submitted to it.[88] IMO also continues to publicize lessons learned from its casualty analyses, as approved by the IMO Subcommittee on Flag State Implementation, which are intended to be circulated to seafarers.[89]

81. At the regional level, the Baltic Marine Environment Protection Commission[90] commenced the first overall risk analysis of shipping accidents in the Baltic Sea.[91]

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[79] At present, there are nine regional port State control agreements in existence (see IMO website for details: www.imo.org/home.asp).

[80] See IMO documents FSI 18/7/4, FSI 18/INF.10, FSI 18/INF.18 and FSI 18/INF.21.

[81] See IMO document FSI 18/INF.2.

[82] See IMO document FSI 18/INF.4/Rev.1.

[83] See IMO document FSI 18/7/2.

[84] IMO document MSC/87/18. See also A/64/64/Add.1, para. 97.

[85] IMO document MSC/87/18.

[86] IMO document MSC/87/26.

[87] Ibid.

[88] At its eighteenth session, held from 5 to 9 July 2010, the IMO Subcommittee on Flag State Implementation approved casualty analyses for release on GISIS (http://gisis.imo.org/).

[89] See www.imo.org/home.asp.

[90] See www.helcom.fi/home/en_GB/welcome/.

[91] See www.helcom.fi/press_office/news_helcom/en_GB/BRISK_analysis.

The Council of Europe has established a platform for cooperation between European and southern Mediterranean countries in the field of major natural and technological disasters, covering the knowledge of hazards, risk prevention, risk management, post-crisis analysis and rehabilitation.[92]

### E. Wreck removal

82. The Nairobi International Convention on the Removal of Wrecks, 2007, is not yet in force. As of 30 June 2010, six States had signed subject to ratification or approval and only Nigeria had agreed to be bound by this instrument. For the Convention to enter into force, 10 States have to express their final consent to be bound.[93,94]

## VI. People at sea

### A. Seafarers and fishers

#### 1. Seafarers

83. Amendments to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers and to its associated Code were adopted at a diplomatic conference held under the auspices of IMO in June 2010. These amendments were adopted with a view to enhancing the standards of training of seafarers serving on board ships, thereby improving the safety of navigation and life at sea, as well as protecting the environment. They include, inter alia, a series of provisions to provide watchkeeping officers aboard ships with sufficient rest periods. They will enter into force on 1 January 2012 under a tacit acceptance procedure.[95] The Conference also proclaimed 25 June as the Day of the Seafarer.[96]

84. The Conference recognized the enormous risks seafarers face in the execution of their daily tasks and duties in an often hostile environment. It expressed concern about the reported instances in which seafarers were unfairly treated and urged all concerned parties to promote and implement several relevant IMO/International Labour Organization (ILO) guidelines. Governments and the shipping industry were encouraged to implement maritime security-related provisions in a manner that, while ensuring that maximum protection was afforded to seafarers, did not subject them to any unfair treatment and unnecessary inconvenience. States were urged to become party to, and thereafter effectively implement, the 2006 Maritime Labour Convention.[97]

85. In September 2009, ILO convened a hemispheric conference on the rapid and widespread ratification and effective implementation of the Maritime Labour

[92] Contribution of Council of Europe.

[93] See Status of Multilateral Conventions and Instruments in respect of which the IMO or its Secretary-General Performs Depositary or other Functions, as at 2 July 2010, available at www.imo.org/home.asp.

[94] Also see A/64/66/Add.1, paras. 99-102.

[95] See IMO document STCW/CONF.2/33.

[96] STCW/CONF.2/32, resolution 19.

[97] STCW/CONF.2/32, resolution 18. As at June 2010, the 2006 Maritime Labour Convention had received 10 ratifications, five of which in 2010. See www.ilo.org/ilolex/cgi-lex/ratifce.pl?C186.

Convention in Barbados. The aim of the conference was to discuss solutions to any issues arising in the process of ratification and implementation of the Convention, as well as possible regional cooperation.[98]

86. At its ninety-sixth session, the IMO Legal Committee reviewed the report of the ninth session of the Joint IMO/ILO Ad Hoc Expert Working Group on Liability and Compensation regarding Claims for Death, Personal Injury and Abandonment of Seafarers. It approved the Working Group's recommendation that an amendment to the 2006 Maritime Labour Convention would be the best way to create a mandatory instrument or instruments on the issue of financial security in case of abandonment of seafarers and for contractual claims arising from sickness, injury or death. The financial security envisaged in the draft text was restricted to contractual compensation as provided for under the employment contract, collective bargaining agreement or other employment agreement.[99] At its 306th session, the ILO Governing Body undertook further actions after reviewing the Working Group's report, with a view to considering the appropriate amendments to the Maritime Labour Convention.[100]

### 2. Fishers

87. Approximately 36 million people are engaged in capture fishing and aquaculture worldwide. Like seafarers, fishers are exposed to significant hazards and risks. Both ILO and the Food and Agriculture Organization of the United Nations (FAO) have been doing work on the safety of fishers.[101] Only one ILO member State, namely Bosnia and Herzegovina, has ratified the Work in Fishing Convention, 2007 (No. 188), which provides a regulatory framework governing large fishing operations.[102] This Convention is thus not yet in force.

88. An FAO workshop, organized in collaboration with ILO in April 2010, examined the issue of child labour in fisheries. According to a group of experts convened by FAO and ILO, more attention should be paid to the plight of child workers in the fisheries sector.[103]

## B. International migration by sea

89. International migration by sea is often treacherous. Presently, the migration route through the Gulf of Aden and the Red Sea is the busiest and the deadliest in the world.[104] Owing to the clandestine nature of most of international migration by

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[98] See www.ilocarib.org.tt/portal/index.php?option=com_content&task=view&id=1296&Itemid=368.

[99] IMO document LEG 96/13, paras. 4.19-4.21. See also LEG 96/4/1, para. 157.

[100] See www.ilo.org/wcmsp5/groups/public/---ed_norm/---relconf/documents/meetingdocument/wcms_126002.pdf.

[101] A/64/66/Add.1, paras. 108-110.

[102] See www.ilo.org/global/What_we_do/InternationalLabourStandards/WhatsNew/lang--en/docName--WCMS_122296/index.htm.

[103] See www.fao.org/news/story/en/item/42159/icode/.

[104] See UNHCR, "Some 74,000 Africans cross Gulf of Aden to Yemen in record-breaking year", 18 December 2009, at www.unhcr.org/4b2bac179.html. The figures for Yemen represented a 50 per cent increase over the previous year's 50,000 arrivals, itself a record. At least 309 people had drowned or had not survived the trip up to that point in 2009. In 2008, some 590 people had died during the crossing.

sea, it remains difficult to establish precise figures. According to the Office of the United Nations High Commissioner for Refugees (UNHCR), the number of arrivals of people seeking to migrate clandestinely by sea in 2009 was as follows: 10,165 to Greece from Turkey; 8,700 to Italy from North Africa; 1,470 to Malta from North Africa; 7,285 to Spain from West Africa; and 77,310 to Yemen from Somalia.[105] UNHCR has continued to express concern about the international protection needs of people in connection with action by authorities in some States to remove people who arrive by sea or to return people to their point of departure.[106]

90. In 2009, a total of 381 incidents related to unsafe practices associated with the trafficking or transport of migrants by sea, involving 9,057 migrants, were reported to IMO. Those migrants came from the Middle East (5,266); Africa (1,372); Asia (47); and Europe (34).[107]

91. As to stowaways, in 2009 it was reported to IMO that out of a total of 259 stowaways, 162 had travelled from countries of the Mediterranean, Black Sea and North Sea region; 74 from the West African region; 14 from the Indian Ocean and East Africa region; 8 from North and South America and the Caribbean region; and 1 from the Far East, South China Sea and Malacca Strait. Additionally, 811 stowaways had embarked in unknown ports. A total of 224 stowaways were repatriated.[108] The number of stowaway incidents reported to IMO from 1 January to 30 April 2010 was 36, involving 87 stowaways.[109]

92. The IMO Assembly, at its twenty-sixth session, adopted resolution A.1027 (26) of 2 December 2009 requesting the Maritime Safety Committee and the Facilitation Committee to undertake the revision of the Guidelines on the allocation of responsibilities to seek the successful resolution of stowaway cases.[110] The revision was requested in order to bring the Guidelines up to date and to incorporate the provisions of the 1965 Convention on Facilitation of International Maritime Traffic pertaining to stowaways.[111]

93. The United Nations Office on Drugs and Crime (UNODC) supports States in implementing the 2000 Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children and the 2000 Protocol against the Smuggling of Migrants by Land, Sea and Air (General Assembly resolution 55/25, annexes II and III). Both Protocols supplement the 2000 United Nations Transnational Organized Crime Convention (General Assembly resolution 55/25, annex I). The Office provides technical assistance to Member States and relevant

[105] See UNHCR, "All in the same boat: The challenges of mixed migration", at www.unhcr.org/pages/4a1d406060.html.

[106] See, for example, UNHCR briefing notes dated 20 January 2009, "Thailand: UNHCR requests access to Rohingya boat people", and press release dated 7 May 2009, "UNHCR deeply concerned over returns from Italy to Libya".

[107] IMO, First biannual report on unsafe practices associated with the trafficking or transport of migrants by sea, 18 February 2010 (MSC.3/Circ.18), available from www.imo.org.

[108] See IMO report on stowaway incidents for 2009 (FAL.2/Circ.117), available from www.imo.org.

[109] See IMO report on stowaway incidents for January to April 2010 (FAL.2/Circ.118), available from www.imo.org.

[110] IMO Assembly resolution A.871(20), adopted in 1997.

[111] Section 4 of the annex to the Convention on Facilitation of International Maritime Traffic was adopted in 2002 and entered into force on 1 May 2003. It prescribes standards and recommended practices on matters relating to stowaways.

actors in relation to combating and preventing smuggling of migrants and trafficking in persons.

94. UNODC recently launched a report on transnational organized crime threat assessment which contains chapters on both smuggling of migrants and trafficking of persons.[112] The Office is currently carrying out a study on the migrant smuggling routes between West Africa, North Africa and Europe.[113]

95. To support Member States in implementing the above-mentioned Protocols, UNODC published a model law against trafficking in persons (United Nations publication, Sales No. E.09.V.11), and is currently drafting model legislative provisions on migrant smuggling. It is also currently developing an international framework for action to implement the Protocol against the Smuggling of Migrants. A toolkit to combat and prevent smuggling of migrants will be published in the last quarter of 2010.

96. On a regional level, on 26 January 2010, the Parliamentary Assembly of the Council of Europe passed a resolution and a recommendation on action against trafficking in human beings.[114]

## VII. Maritime security

97. During the period under review, States have taken a wide range of actions at the global, regional and national levels to address threats to maritime security, including piracy and armed robbery at sea, terrorist acts against shipping and offshore installations and other maritime interests and transnational organized crime. The United Nations and other intergovernmental organizations have continued to contribute to the ongoing fight against crimes at sea through the organization and implementation of various capacity-building programmes. While some initiatives focused on countering specific crimes at sea (see sects. A, B and C below), others took a broader approach to maritime security.

98. The African Union convened a workshop of experts on maritime security and safety on 6 and 7 April 2010, in Addis Ababa.[115] The workshop provided an opportunity to review the challenges facing Africa in terms of maritime security and safety, including illegal, unreported and unregulated fishing, dumping of toxic wastes, arms and drugs trafficking, human trafficking, oil bunkering and piracy and armed robbery at sea. The workshop stressed the urgent need for renewed efforts at national, regional and continental levels to promote maritime security and safety.[116]

99. The workshop was a follow-up to a decision of the African Union Assembly adopted in July 2009, in which it expressed serious concern at the mounting

[112] See www.unodc.org/unodc/en/data-and-analysis/tocta-2010.html.

[113] This study is being undertaken within the framework of a project supported by funding from the European Union.

[114] Resolution 1702 (2010) and recommendation 1895 (2010).

[115] The workshop was also attended by the Secretariat of the United Nations, including the Division for Ocean Affairs and the Law of the Sea.

[116] Conclusions and recommendations of the workshop, available at www.africa-union.org/root/UA/Conferences/2010/avril/PSC/07avril/African_Union_Member_States_06-07_April_2010_Experts_Meeting_on_Maritime_Security_and_Safety_Strategy-Documentation/Conclusions_Eng.pdf).

insecurity in the maritime spaces around Africa, and Somalia in particular; strongly condemned all illegal activities in those regions; and welcomed the initiatives undertaken by the Commission of the African Union to develop a comprehensive and coherent strategy to combat those scourges.[117]

100. In Europe, the Committee of Ministers of the Council of Europe has also taken steps to address maritime security and piracy, including by requesting inputs from a number of intergovernmental committees, in particular the European Committee on Crime Problems, the Committee of Legal Advisers on Public International Law and the Steering Committee for Human Rights, prior to taking a decision on these matters.[118] In the Pacific, the Secretariat of the Pacific Community reported that its member States had undertaken a substantial effort to improve port security in order to protect trade interests.[119]

101. In June 2010, the Counter-Terrorism Committee Executive Directorate and UNODC hosted, in partnership with IMO, a workshop on the legal regime applicable to unlawful acts committed against the security of maritime navigation and offshore platforms.[120] Similar workshops will be held in West Africa and the Caribbean Islands.[121]

## A. Piracy and armed robbery at sea

102. The number of acts of piracy and armed robbery at sea[122] worldwide reported to IMO in 2009 was 406, compared to 306 in the previous year, an increase of 32.7 per cent.[123] During the first half of 2010, 212 attacks were reported worldwide, as compared to 238 attacks in the first half of 2009.[124] The majority of attacks occurred off the coast of Somalia. Although globally acts of piracy and armed robbery have increased in recent years, the incidence of armed robbery in port facilities has decreased.[125]

103. At the regional level, in 2009, the following numbers of incidents were reported to IMO: 222 in East Africa; 69 in the South China Sea; 46 in West Africa; 36 in South America and the Caribbean; 27 in the Indian Ocean; and 2 in the Arabian Sea.[126] In the first six months of 2010, the numbers were 84 in East Africa; 60 in the South China Sea; 25 in the Indian Ocean; 19 in West Africa; 14 in South

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[117] Decision Assembly/AU/Dec.252(XIII) adopted by the Thirteenth Ordinary Session of the Assembly of the African Union, held in Sirte, Libyan Arab Jamahiriya, from 1 to 3 July 2009.

[118] Contribution of the Council of Europe.

[119] Contribution of the Secretariat of the Pacific Community.

[120] The Division also participated in that workshop.

[121] Contribution of the Counter-Terrorism Committee Executive Directorate.

[122] Armed robbery against ships is defined in paragraph 2.2 of the annex to IMO Assembly resolution A.1025(26) of 2 December 2009, entitled Code of practice for the investigation of crimes of piracy and armed robbery against ships.

[123] See report of the IMO Maritime Safety Committee on its eighty-seventh session (IMO document MSC 87/26 of 25 May 2010), available at www.imo.org/newsroom/mainframe.asp?topic_id=110.

[124] See IMO monthly reports on acts of piracy and armed robbery against ships, available at www.imo.org.

[125] See report of the IMO Maritime Safety Committee, note 123 above.

[126] See paragraph 6 of MSC.4/Circ.152 of 29 March 2010, available at www.imo.org.

America; and 10 in the Arabian Sea.[127] These figures indicate that the areas of the world where piracy and armed robbery at sea are most prevalent are in Asia and off the coast of Somalia.

104. The International Maritime Bureau (IMB) of the International Chamber of Commerce (ICC) reports that there has been a marked increase in the number of attacks in the South China Sea and an increase of attacks in Indonesian waters.[128] There has also been an increase of 127 per cent in attacks against tankers in Asia during the first half of 2010.[129] IMB further reports that there were 100 attacks attributable to Somali armed robbers/pirates in the first half of 2010 compared to 148 for the same period in 2009.[130]

105. By its resolution A.1025(26) of 2 December 2009, the IMO Assembly adopted the Code of Practice for the Investigation of the Crimes of Piracy and Armed Robbery against Ships. This Code contains a definition of armed robbery against ships.[131] This definition includes a reference to inciting and facilitating such acts, thereby aligning it with the definition of piracy in article 101 of the Convention.

106. *Piracy and armed robbery against ships in Asia.* States have been cooperating in Asia through the 2004 Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (RECAAP).[132]

107. Norway and the Netherlands joined RECAAP in 2009 and 2010, respectively, bringing the number of States parties to 16. At its fourth annual meeting, held in March 2010, the RECAAP Information Sharing Centre Governing Council agreed that memorandums of understanding on information exchange and mutual support would be signed with the Asian Shipowners' Forum and the Baltic and International Maritime Council (BIMCO). The memorandum of understanding with BIMCO was signed at the Piracy and Sea Robbery Conference held on 29 April 2010, which was jointly organized by RECAAP and BIMCO.

108. *Piracy and armed robbery against ships off the coast of Somalia.* It is believed that the work of the naval forces operating in the region pursuant to a number of Security Council resolutions[133] has brought down the number of attacks in the Gulf of Aden.[134] It has, however, been reported that, in an attempt to avoid these naval forces, attacks are spreading out. During the period from January to June 2010, there was an increasing number of attacks in the Red Sea and the Bab El Mandeb Straits.[135] Owing to the continuing attacks, the Security Council, in resolution 1897 (2009), decided to renew for a period of 12 months the authorizations, as set

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[127] See IMO's monthly reports on acts of piracy and armed robbery against ships, available at www.imo.org.

[128] See ICC-IMB report on piracy and armed robbery against ships, second quarter 2010, p. 21. See also Half Ye. .y Report, January to June 2010, of the Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (RECAAP), available from www.recaap.org/incident/reports.html.

[129] See www.recaap.org/news/pdf/news/2010/26Jul%2010%20Maritime%20Protection%20Services.pdf.

[130] See ICC-IMB report on piracy and armed robbery against ships, second quarter 2010, table 1, pp. 5 and 6 and p. 20).

[131] This resolution supersedes IMO resolution A.922(22).

[132] See www.recaap.org/index_home.html.

[133] See resolutions 1816 (2008), 1838 (2008), 1846 (2008), 1851 (2008) and 1897 (2009).

[134] See ICC-IMB report on piracy and armed robbery against ships, 1 January-30 June 2010, p. 21.

[135] Ibid., p. 20.

out in paragraph 10 of its resolution 1846 (2008) and paragraph 6 of its resolution 1851 (2008), granted to States and regional organizations cooperating with the Transitional Federal Government in the fight against piracy and armed robbery at sea off the coast of Somalia. The continued prevalence of piracy in the region highlights the need to view the fight against piracy as part of a long-term overall effort to address the political and security situation in Somalia.

109. A number of international meetings and conferences were organized to address the issue of piracy off the coast of Somalia. For example, in July 2010, Seychelles hosted a two-day international symposium addressing concerns of maritime security, particularly piracy. Seychelles also hosted a regional conference on piracy on 21 May 2010.

110. The General Assembly has consistently expressed its concern about piracy and its negative consequences.[136] On 14 May 2010, the President of the Assembly convened an informal plenary meeting of the Assembly on piracy. The purpose of the meeting was to provide a forum for Member States to discuss the issue so that it could be effectively addressed.[137] It was emphasized that the fight against piracy required a well-coordinated and comprehensive response by the international community and that suspects needed to be prosecuted. The European Parliament also hosted a symposium on approaches to combating piracy in June 2010.[138]

111. The Contact Group on Piracy off the Coast of Somalia continues to serve as an informal information-sharing and cooperation mechanism for States affected by piracy off the coast of Somalia or involved in efforts to repress it. The Contact Group held its sixth plenary meeting on 10 June 2010 in New York.[139] The Contact Group highlighted that there was a need for the increased use of military vessel protection detachments and military assets and increased land-based options in the region to assist with naval and air operations. A number of possible models to ensure prosecution, including a network of bilateral transfer arrangements of suspects, are being discussed in the Contact Group's working group on legal issues.

112. Seven applications to the Trust Fund to Support Initiatives of States Countering Piracy off the Coast of Somalia were approved by the Trust Fund board. Six of these projects involve prosecution and assistance to institutions in Kenya, Seychelles and Puntland and Somaliland. An appeal was made for additional donations to the Trust Fund. UNODC manages the Trust Fund.

113. The Contact Group urged the international community to tackle the issue of tracing of funds related to piracy.[140]

114. In 2010, the United Nations Political Office for Somalia, in collaboration with IMO, UNODC, the United Nations country team and the International Criminal Police Organization (INTERPOL), organized three technical coordination meetings in Kampala and Djibouti. The purpose was to facilitate information sharing and the

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[136] See, for example, Assembly resolution 64/71 of 4 December 2009.

[137] See www.un.org/ga/president/64/thematic/piracy.shtml.

[138] See www.europarl.europa.eu/eng-internet-publisher/eplive/expert/shotlist/20100609SHL03093.

[139] Statement of the meeting available at www.state.gov/r/pa/prs/ps/2010/06/143010.htm.

[140] At the national level, the United States issued Executive Order 13536 of 12 April 2010 on the blocking of property of certain persons contributing to the conflict in Somalia (see http://edocket.access.gpo.gov/2010/pdf/2010-8878.pdf). See also the report of the IMO Maritime Safety Committee on its eighty-seventh session (MSC 87/26 of 25 May 2010).

coordination of activities in the areas of legislative review, prisons, fisheries and maritime safety and security.[141] The Transitional Federal Government signed a memorandum of understanding with the Puntland authorities on counter-piracy cooperation on 12 April 2010.

115. The Djibouti Code of Conduct concerning the repression of piracy and armed robbery against ships in the western Indian Ocean and the Gulf of Aden has now been signed by 15 States.[142] In April 2010, IMO established a Project Implementation Unit to promote the full and effective implementation of the Code. The Unit and its activities are funded through the Djibouti Code Trust Fund. Additionally, regional meetings and capacity-building events were held in Seychelles (October 2009), Singapore and the Philippines (November 2009) and Djibouti (February 2010).

116. In its resolution 1918 (2010), the Security Council stated that the failure to prosecute persons responsible for acts of piracy and armed robbery at sea off the coast of Somalia was undermining anti-piracy efforts of the international community. Both the Security Council and the General Assembly have called upon States to ensure that their domestic laws allow for the prosecution of persons suspected of having committed acts of piracy and armed robbery.[143] To assist States in this regard, IMO, UNODC and the Division are cooperating in the compilation of national legislation on piracy.[144]

117. In resolution 1918 (2010), the Security Council requested the Secretary-General to prepare a report on possible options to further the aim of prosecuting and imprisoning those responsible for acts of piracy and armed robbery at sea off the coast of Somalia.[145] The report of the Secretary-General (S/2010/394), which identifies seven options, was considered by the Council on 25 August 2010. Following that meeting, the President of the Council made a statement on behalf of the Council, in which the Council welcomed the report as a solid base for future work. The Council also welcomed the intention of the Secretary-General to appoint a Special Adviser on Legal Issues Related to Piracy off the Coast of Somalia.[146] On 26 August 2010, the Secretary-General appointed Jack Lang of France to that position.

118. The Parliamentary Assembly of the Council of Europe, in April 2010, adopted a resolution requesting its member States to examine a number of legal issues pertaining to the prosecution of pirates.[147]

119. Ten States are currently prosecuting suspected pirates in their national courts.[148] UNODC provides assistance for prosecution efforts in Kenya, Seychelles and Somalia, including Somaliland and Puntland. In Kenya, two trials have been

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[141] The Division participated in one of these meetings to provide advice on the Convention. See the contribution of the Department of Political Affairs and the report of the Secretary-General (S/2010/394, para. 6).

[142] See www.imo.org and http://editions.magsbyme.com/Marlin_Digital_Publishing/10008494.

[143] See Security Council resolution 1918 (2010) and General Assembly resolution 64/71, para. 72.

[144] See General Assembly resolution 64/71, para. 75.

[145] See para. 4.

[146] S/PRST/2010/16 of 25 August 2010.

[147] See Council of Europe contribution.

[148] France, Germany, Kenya, Maldives, Netherlands, Seychelles, Somalia (in the Somaliland and Puntland regions), Spain, United States and Yemen. See S/2010/394.

completed and 18 pirates have been convicted.[149] In Seychelles, judicial proceedings have commenced in all three cases and, on 26 July 2010, the Supreme Court of Seychelles sentenced eight persons for committing acts of piracy and three others for aiding and abetting an act of piracy.[150]

120. A number of transfer agreements have been negotiated by patrolling naval States and the European Union which allow for the transfer of suspects to regional States for prosecution. Currently, Canada, China, Denmark, the United Kingdom, the United States of America and the European Union have transfer arrangements with Kenya. The European Union, the United Kingdom and the United States also have transfer arrangements with Seychelles.[151]

121. In order to reduce the burden placed on Kenya and Seychelles, UNODC is currently identifying those States in the region which may be prepared to accept suspects for prosecution. With the assistance of the United Nations Development Programme (UNDP), it is also providing technical assistance to Somalia, which includes prison reform. This will enable those sentenced outside Somalia to be repatriated to Somalia to serve their sentences there. UNODC and UNDP are also assisting with legal reform and capacity-building in relation to prosecutions. UNODC has helped legal experts from all three regions of Somalia to draft new anti-piracy legislation, which is currently pending adoption.

122. *Seafarers*. Attacks against vessels seriously endanger the lives and livelihoods of seafarers. Figures reported to IMB reflect a dramatic increase in the number of attacks which involved firearms in 2009 and 2010.[152] IMO reports that, in 2009, 8 seafarers were killed, 59 injured, approximately 746 taken hostage or kidnapped and 9 reported missing in attacks.[153] Between January and March 2010, 110 were taken hostage, 16 injured and 1 killed.[154] IMO has expressed its grave concern about the situation.[155] In order to assist seafarers in deterring attacks, the shipping industry has issued the third version of its best management practices to deter piracy off the coast of Somalia and in the Arabian Sea area. Additionally, guidance papers for the training, preparation and care of seafarers are currently being prepared.[156] At its twenty-sixth session, the IMO Assembly adopted resolution A.1026(26) of 2 December 2009 on piracy and armed robbery against ships in waters off the coast of Somalia. In May 2010, the Maritime Safety Committee agreed on a mechanism to enhance the provision of information from ships through the long-range identification and tracking systems in the Gulf of Aden and the western Indian Ocean.

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[149] UNODC contribution.

[150] See www.bbc.co.uk/news/world-africa-10763605.

[151] See S/2010/394, para. 23 and www.nation.sc/index.php?art=20067.

[152] See ICC-IMB report on piracy and armed robbery against ships, second quarter 2010, table 6, p. 10.

[153] See paragraph 7 of IMO document MSC.4/Circ.152 of 29 March 2010, available at www.imo.org.

[154] See paragraph 4 of IMO document MSC.4/Circ.153 of 9 June 2010, available at www.imo.org.

[155] See letter from the IMO Secretary-General to the Secretary-General of the United Nations, available at www.imo.org.

[156] See, for example, the preliminary guidelines for the post-piracy care of seafarers that have been prepared by the Center for Seafarers Rights at The Seamen's Church Institute at www.seamenschurch.org.

## B. Illicit traffic in narcotic drugs and psychotropic substances

123. The *World Drug Report 2010*, prepared by UNODC, illustrates that transport by sea continues to be a primary method for illicit traffic in narcotic drugs and psychotropic substances around the world.[157] For example, trafficking of cocaine to Europe is mainly by sea. Some 69 per cent of the total volume of cocaine seized by customs authorities en route to Western Europe was detected on board boats or vessels, concealed in freight or in the vessels' structure.[158] Transatlantic shipment of narcotic drugs from Latin America and the Caribbean to Africa has also been identified as a significant challenge.[159]

124. Such traffic by sea creates particular difficulties for law enforcement officials, as approximately 90 per cent of the world's cargo is shipped by container. Scanning or searching every single container, load and vehicle is practically impossible.[160] International cooperation is therefore vital to addressing the flow of narcotic drugs and psychotropic substances by sea.

125. An example of such cooperation was the participation of expert observers from 10 West African countries at the nineteenth Meeting of Heads of National Drug Law Enforcement Agencies, Latin America and the Caribbean.[161] A memorandum of understanding to promote the joint investigation of specific cases was later signed by representatives of Latin American and West African law enforcement agencies at a meeting held in Bogota in November 2009.[162] The meeting also made a number of recommendations in relation to effective border management at sea container terminals.[163]

126. The Container Control Programme, which is implemented jointly by UNODC and the World Customs Organization, currently has project sites in South America, Central America, Africa and Central Asia. At the heart of the initiative are the joint port control units, which consist of police, customs, gendarmerie and drug law enforcement authorities.[164]

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[157] UNODC, *World Drug Report 2010* (United Nations publication, Sales No. E.10.XI.13, available at www.unodc.org/unodc/en/data-and-analysis/WDR-2010.html). See especially pp. 22, 26, 55, 56, 60, 74, 83-84 and 234.

[158] Ibid., p. 83.

[159] See, for example, the report of the Eighth Meeting of Heads of National Drug Law Enforcement Agencies, Europe, held in Vienna from 16 to 18 June 2009 (UNODC/HONEURO/8/5), p. 3. It was recommended that, "[i]n response to the current threat posed to the States of both West Africa and Europe by transatlantic cocaine trafficking by well-organized and well resourced criminal syndicates, Governments should encourage their authorities to contribute to and support the Maritime Analysis and Operations Centre-Narcotics (MAOC-N) operational initiative".

[160] *World Drugs Report 2010*, note 157 above, p. 63.

[161] Held at Isla Margarita, Bolivarian Republic of Venezuela, from 28 September to 2 October 2009.

[162] E/CN.7/2010/10, para. 39.

[163] See the report of the meeting (UNODC/HONLAC/19/5), available at www.unodc.org/unodc/en/commissions/HONLAC/01-HONLAC-19-documents.html.

[164] E/CN.7/2010/10, p. 10.

## C. Terrorist acts against shipping and offshore installations and other maritime interests

127. The international legal framework for the suppression of terrorist acts against shipping, offshore installations and other maritime interests has been recently reinforced through the entry into force, on 28 July 2010, of the 2005 Protocol to the 1988 Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation and the 2005 Protocol to the 1988 Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf. The two 2005 Protocols substantially expand the list of actionable criminal offences contained in the instruments they revise. Notably, the Protocol to the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation contains provisions for the boarding of ships by a non-flag State party where there are reasonable grounds to suspect that the ship or a person on board the ship is, has been, or is about to be involved in the commission of an offence under that Convention. Subject to certain exceptions, such boardings may only be undertaken with the express consent of the flag State. A number of safeguards must be met when a State party takes such measures. The Protocol also includes new provisions on high-seas boarding.[165]

128. While terrorist acts have remained a rare occurrence, the potential harm that they could cause to shipping, offshore installations and other maritime interests makes them a significant concern for the international community.[166]

129. Various United Nations entities assist States in taking measures to address terrorism pursuant to their respective mandates and within the context of the United Nations Global Counter-Terrorism Strategy.[167] For example, within the framework of its dialogue with Member States on the implementation of Security Council resolution 1373 (2001), the Counter-Terrorism Committee encourages States to criminalize in domestic law the relevant offences of the international counter-terrorism instruments, including crimes committed at sea, and to cooperate at the national, regional and international levels to prevent and combat those offences. The Committee also promotes the effective implementation by all Member States of the International Convention for the Safety of Life at Sea and the International Ship and Port Facility Security Code, as part of required measures to detect and prevent terrorist mobility at port facilities and on board ships.[168]

130. The Committee adopted a series of recommendations aimed at encouraging Member States to become parties to the maritime international counter-terrorism instruments and to implement effective administrative and legal measures in the area of maritime security.[169]

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[165] See www.imo.org. See also A/63/63, para. 69 and A/61/63, paras. 96-100.

[166] See, for example, pp. 18-19 of a recent report by the Government Accountability Office of the United States entitled "Maritime Security: Varied Actions Taken to Enhance Cruise Ship Security, but Some Concerns Remain", available at www.gao.gov/products/GAO-10-400.

[167] See www.un.org/terrorism/strategy-counter-terrorism.shtml.

[168] Contribution of the Counter-Terrorism Committee Executive Directorate.

[169] Ibid.

### D. Proliferation of nuclear, chemical and biological weapons

131. During the period under review, the Security Council Committee established pursuant to resolution 1540 (2004) has continued organizing regional workshops focusing on building national capacities and regional cooperation in the area of border and export controls. The implementation of relevant international agreements, such as the 2005 Suppression of Unlawful Acts Protocols (see para. 127 above), is of significant importance in order to advance the fight against non-proliferation of weapons of mass destruction and terrorism.[170]

## VIII. Marine science and technology

132. As reaffirmed during the eleventh meeting of the Informal Consultative Process (see A/65/164), the sustainable use of the oceans depends on marine science and adequate scientific knowledge. Marine science is a tool for exploring, understanding and using the marine environment in a sustainable manner. Enhancing humankind's knowledge of the natural processes of the oceans, marine science and its supporting technologies can support decision-making, contribute to improving integrated coastal management and the sustainable utilization of marine resources and provide effective means for the protection and conservation of the marine environment and its resources. Thus, marine science and its supporting technologies can make a major contribution to eliminating poverty, ensuring food security, supporting human economic activity, conserving the world's marine environment, helping to predict and mitigate the effects of, and respond to, natural events and disasters, and generally promoting the use of the oceans and their resources (see A/65/69, para. 80).

133. The ministerial round table entitled "Building stewardship for the ocean: the contribution of UNESCO to responsible ocean governance", organized by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in October 2009, emphasized the role of the Intergovernmental Oceanographic Commission (IOC) of UNESCO in supporting global governance of the oceans through marine science, monitoring of the state of the marine environment and its ecological services and capacity-building.[171]

134. IOC celebrates its fiftieth anniversary in 2010.[172] At its forty-third session, in June 2010, the IOC Executive Council called attention to the need to promote widely the "Ocean Call" and "Youth Declarations for the Ocean" delivered during the celebration of the fiftieth anniversary of IOC.[173]

### A. Marine science

#### 1. Ocean observing programmes

135. Oceanography has advanced from a science dealing mostly with local processes to one that is also studying ocean basin and global processes. As a result,

[170] Office of Disarmament Affairs contribution.

[171] IOC contribution.

[172] For details on the fiftieth anniversary of IOC, see www.unesco.org/en/ioc-50anniversary.

[173] Report of the meeting of the Executive Council, IOC/EC-XLIII/3, annexes IV-B and IV-C.

researchers and a wide spectrum of users depend critically on the availability of an international exchange system to provide data and information from all available sources.[174] Monitoring and observing the global oceans requires an international effort and broad cooperation among all stakeholders. IOC, the World Meteorological Organization (WMO), the United Nations Environment Programme (UNEP) and the International Council for Science sponsor and manage the Global Ocean Observing System to provide a coordinated approach to the deployment of observation technologies, disseminate data flows and delivery of marine information, inform and aid marine management and decision makers and increase the appreciation of changes in the oceans.

136. IOC has continued to develop the Global Ocean Observing System by reinforcing its open-ocean, climate and coastal components (A/64/66/Add.1, para. 137). The open-ocean component is part of the Global Climate Observing System, which coordinates atmospheric, oceanic and terrestrial observations for climate monitoring, prediction and research. In 2009, an effort was made to modernize and broaden the scope of the open-ocean component of the Global Ocean Observing System.[175] In that regard, a draft revision of the plan for the Global Climate Observing System was prepared to reflect progress made in science and technology, the increasing focus on adaptation, the demand to optimize mitigation measures and other evolving requirements for systematic observation of the climate system.[176] The provisional "Implementation Plan for the Global Observing System for Climate in Support of the UNFCCC" (2010 update)[177] was submitted to the fifteenth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, held in Copenhagen in December 2009, for further review and completion.[178] At its forty-third session, the IOC Executive Council stressed that the initial in situ global ocean observing system for climate should be fully implemented and sustained by 2015, as called for at OceanObs'09 Conference (see para. 137 below), and that the continuity of remote-sensing observations should also be ensured.[179]

137. The OceanObs'09 Conference, "Ocean information for society: sustaining the benefits, realizing the potential", was held in Venice, Italy, in September 2009.[180] Documents for the meeting relating to the Global Ocean Observing System aimed at building a common vision for the provision of routine and sustained global information on the marine environment to describe, understand and forecast marine variability, weather and climate variability, climate change, sustainable management of living marine resources and assessment of longer-term trends.[181] Participants at the Conference called for significantly enhancing the internationally coordinated provision of sustained observation of, and information on, the world oceans, as part of the larger Earth system observing effort under the Global Earth Observation

[174] Global Ocean Observing System booklet (SC-2010/WS/13), available at http://unesdoc.unesco.org/images/0018/001878/187825E.pdf.

[175] IOC contribution.

[176] For additional information, see Global Climate Observing System Annual Report 2008/09, document GCOS 136, December 2009, available at www.wmo.int/pages/prog/gcos/Publications/gcos-136.pdf.

[177] www.wmo.int/pages/prog/gcos/documents/GCOSIP-10_DRAFTv1.0_131109.pdf.

[178] GCOS 136, note 176 above.

[179] Report of the meeting, document EC-XLIII/3.

[180] See www.oceanobs09.net.

[181] IOC contribution.

System of Systems programme. They reiterated that the oceans remained seriously undersampled and that the development of an increasing range of ocean assessments and climate services for planning, early warning, adaptation and mitigation depended upon the availability of accurate observations and models of the world ocean. The ocean observing community was urged to increase efforts to achieve the needed level of timely data access, sensor readiness and standards, best practices, data management, uncertainty estimates and integrated data set availability.[182] At its forty-third session, the IOC Executive Council decided that the report of the OceanObs'09 working group on an integrated framework for sustained ocean observations should be made available to all member States for review and comment.[183]

138. The Global Ocean Observing System in Africa is associated with a consortium, the Group on Earth Observations, developing the GEONETCast project. The project aims to ensure that environmental satellite and in situ data and products from participating data providers are transmitted to all users throughout a global network of communication satellites, using a multicast access-controlled broadband capability with associated capacity development.[184] Regarding climate change, the Global Ocean Observing System in Africa represents the ocean component of the Global Climate Observing System in Africa and, as such, organized the first pan-African workshop on decision-making support for coastal zone management in Africa, held in Cotonou in February 2010.[185]

## 2. Ocean mapping

139. IOC continues to support the project "Improving Emergency Response to Ocean-based Extreme Events through Coastal Mapping Capacity Building in the Indian Ocean". In 2008 and 2009 more than 60 scientists from eastern Africa and 55 scientists from Asia were trained in hydrographic data acquisition processing and management, geographic information system and inundation maps construction, natural disaster risk assessment and management and fund-raising. For the 2010-2011 biennium, it is expected that approximately 40 scientists will be trained, and countries will be equipped with echo sounders, global positioning system stations and software.[186]

140. With respect to regional bathymetric charts, progress was made on methods for the compilation of bathymetric data, in particular in the Caribbean Sea, the Gulf of Mexico and in the south-eastern Pacific areas.[187] Progress was also made on the international bathymetric charts of the Southern Ocean. During the forty-third session of the IOC Executive Council, it was highlighted that high-resolution bathymetric datasets in risk-prone coastal areas play an important role with regard to tsunami inundation modelling.

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[182] Global Climate Observing System annual report 2008-2009, available at www.wmo.int/pages/prog/gcos/Publications/gcos-136.pdf.

[183] Report of the 43rd session of the IOC Executive Council, IOC/EC-XLIII/3, available at www.ioc-unesco.org/index.php.

[184] IOC contribution.

[185] At the time of preparation of this report, the outcome of the workshop was not yet available. It will be posted at www.czcp.org/workshops/Cotonou/.

[186] IOC contribution.

[187] Ibid.

141. IOC participates in the joint IOC-IHO guiding committee for the General Bathymetric Chart of the Oceans (GEBCO). A new version of the GEBCO digital atlas has been produced with updated grids, including the Arctic, together with the new GEBCO grid display software and an updated GEBCO gazetteer of geographic names of undersea features. GEBCO has also developed capacity-building activities with the training of a new generation of scientists and hydrographers in ocean bathymetry.[188]

### 3. International Oceanographic Data and Information Exchange

142. The International Oceanographic Data and Information Exchange, which will commemorate its fiftieth anniversary in 2011, is an IOC programme aiming at enhancing marine scientific research, exploitation and development, by facilitating the exchange of oceanographic data and information between participating member States, and by meeting the needs of users for data and information products. It facilitates and promotes the exchange of data and information by providing comprehensive, real-time, near-real-time, and delayed-mode, long-term and high-quality datasets for the investigation of global change issues.

143. The Ocean Data and Information Network in Africa is working on national and regional atlases based on large marine ecosystems, which will be useful for the management of the coastal environment and resources. The OceanDocs African electronic repository provides access to a sea-level network of tide gauges along the African coast (see A/65/69, para. 107), with a number of new stations installed.

144. The IOC Assembly, at its twenty-fifth session in June 2009, adopted a resolution on cooperation between IOC and the Ocean Biogeographic Information System.

### 4. Harmful algal blooms

145. The IOC Intergovernmental Panel on Harmful Algal Blooms, at its meeting in April 2009, identified the following priorities for its programme: capacity-building; the research component of its Marine Geological and Biological Habitat Mapping (GEOHAB) of the Harmful Algae Bloom Programme; biotoxin regulation and human health; the harmful algae information system and international ocean data exchange; harmful algal bloom observations and their inclusion in Global Ocean Observing System regional alliances; harmful algal events; coastal zone management and linkages with coastal eutrophication; and formulation/endorsement of specific objectives for regional activities. A GEOHAB open science meeting, held in Beijing in October 2009, focused on the relationship between eutrophication and harmful algal bloom.[189]

### 5. Law of the sea and marine scientific research

146. At its twenty-fifth session, held in April 2009, the IOC Assembly invited the IOC Executive Council to discuss the review of the IOC Advisory Body of Experts on the Law of the Sea and to agree on its future mandate and means of operation.[190] The IOC Executive Council, at its forty-third session, decided to establish an

[188] Ibid.

[189] See www.geohab.info.

[190] Resolution XXV-1 found in document IOC-XXV/3, annex II.

intersessional open-ended working group with representatives of member States to prepare a questionnaire on the achievements of the Advisory Body and opportunities for future activities where the advice of an expert body might be necessary; and suggest a mechanism to identify and prioritize issues of interest to IOC.[191] The resolution also called upon the Advisory Body to continue its work on questionnaire No. 3 on the practices of member States in the field of marine scientific research and transfer of technology, within the framework of the Convention and in close cooperation with the Division (see also A/64/66/Add.1, para. 150).

147. IOC continues to promote awareness of the extended continental shelf. It is working with the New Partnership for Africa's Development and the Global Research Information Database in Arendal, Norway, to develop a strategy for fast-tracking capacity development in Africa for the preparation of submissions to the Commission on the Limits of the Continental Shelf. They are also exploring opportunities for partnership development on the delineation of the outer limit of the continental shelf.[192]

## B. Capacity-building in marine science

148. Training was organized by IOC on the development and use of decision support tools, such as models, to support coastal management. Seven decision support tool projects have been developed in Kenya, Mozambique, the United Republic of Tanzania and Seychelles, and training organized for scientists from each of these countries.[193] At the request of the African Union Commission, the following capacity-building activities were undertaken: a compilation of documents on the impacts of climate change on coastal zones of Africa; and the coordination of a team of African experts to assist the African Group's participation in the fifteenth meeting of the Conference of the Parties to the United Nations Framework Convention on Climate Change.

149. IOC continues to implement a four-year regional project on adaptation to climate change in coastal areas of West Africa (see A/65/69, para. 215). In 2009, Cape Verde, Gambia, Guinea-Bissau, Mauritania and Senegal started implementing innovative adaptation measures in their respective pilot sites, such as mangrove plantations, dune stabilization, development of ecotourism activities and delimitation of protected areas. All those are designed to alleviate human pressures on sensitive coastal habitats, which are particularly vulnerable to climate change impacts. In addition, the Regional Project Unit has implemented a regional training programme to build technical capacity in the area of coastal adaptation, and organized several training courses on the matter.[194]

## C. Early warning systems

150. The magnitude 7.0 earthquake which occurred in Haiti on 12 January 2010 generated a tsunami that substantiated the need to effectively implement the

[191] Resolution EC-XLIII.4, IOC/EC-XLIII/3, annex II, p. 6.
[192] IOC contribution.
[193] Ibid.
[194] Ibid.

Tsunami and Other Coastal Hazards Warning System for the Caribbean Sea and Adjacent Regions[195] so as to be prepared for future potentially destructive tsunamis in the region.[196]

151. The 8.8 magnitude earthquake in central Chile on 27 February 2010 also generated a tsunami, which crossed the Pacific Ocean. While the worst-hit area was around Talcahuano in Chile, with a 2.34-metre sea level rise, the near-real-time sea level monitoring system registered the tsunami in Hokkaidao, Japan, with a 0.82-metre sea level rise. The Pacific Tsunami Warning System enabled emergency response agencies to warn locals about the tsunami risk and order evacuations.[197]

152. Such events demonstrate that tsunamis are a constant and unpredictable hazard, requiring continuous efforts for stronger emergency responses in the world's most vulnerable States. In view of the need to develop preparedness, initiatives have intensified. Post-event assessment of the performance of the relevant tsunami warning systems for Haiti and Chile were conducted through surveys sent to member States. The report for the Haiti earthquake has been issued, stating that tsunami bulletins were received in a timely manner by most of the countries that answered the survey, but observing that sea level was scarcely monitored during the event, and that some national tsunami warning centres did not know how to access sea level data over the global telecommunication system or over the IOC sea level observation facility website. Most warning centres did not use any numerical model scenarios during the event.[198]

153. In order to meet the need for, and benefit from, enhanced coordination, common requirements and the exchange of knowledge and information among the IOC Intergovernmental Coordination Groups, the IOC Assembly, in its resolution XXV-13 adopted in 2009,[199] decided to establish inter-Intergovernmental Coordination Group Task Teams on Sea Level for Tsunami Purposes, on Disaster Management and Preparedness and on Tsunami Watch Operations.[200]

154. The Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System, at its sixth session in April 2009, adopted guidelines on tsunami risk assessment and mitigation for the Indian Ocean.[201] It also established a task team to review the working group structure and terms of reference, and reconstituted the Regional Tsunami Watch Provider Coordination Group as the Regional Tsunami Watch Provider Task Team. Several IOC member States mentioned the problem of vandalism of tsunami reporting devices (see also A/64/66/Add.1, para. 153),[202] noting that out of 20 deep-ocean tsunameters

[195] See www.ioc-tsunami.org/index.php?option=com_content&view=article&id=9&Itemid=15&lang=en.

[196] "12 January 2010 Haiti earthquake and tsunami event: post-event assessment of CARIBE EWS performance", IOC Technical Series No. 90.

[197] See www.earthzine.org/2010/03/04/chilean-tsunami-was-first-real-scale-test-of-the-unescoioc-pacific-tsunami-warning-system-and-enabled-emergency-evacuations/.

[198] For a complete presentation of the answers to the survey, see IOC Technical Series No. 90, note 196 above.

[199] IOC-XXV/3, annex II, p. 21.

[200] See also IOC/EC-XLIII/3.

[201] IOC Manuals and Guides, 52 (IOC/2009/MG/52).

[202] See also resolution 64/71, para. 172.

deployed to date in the Indian Ocean, 9 were not operating owing to intentional or accidental damage.[203]

155. The sixth session of the IOC Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and Connected Seas, held in November 2009, launched a set of communication exercises to test the communication capability of the warning system. It is expected that the programme will improve the prediction of coastal inundation, focus existing warning practices for different sea level-related hazards, and advance hazard and risk mapping. In relation to the multi-hazard approach, the Intergovernmental Coordination Group called for strengthened cooperation with WMO, the European Commission (especially regarding the flood directive)[204] and the European Space Agency.[205] It also established a Tsunami Information Centre for the North-eastern Atlantic, the Mediterranean and connected seas at the IOC secretariat.

156. The fourth session of the Intergovernmental Coordination Group for Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions was held in June 2009. To date, 23 member States have nominated Tsunami Warning Focal Points. ICG has developed stronger links with regional disaster-management organizations and several regional partners.[206] Regarding the proposed Caribbean Tsunami Warning Centre, to be established by 2010, the Intergovernmental Coordination Group approved a technical document on technical, logistical and administrative requirements of a regional tsunami warning centre for the Caribbean,[207] which will be used as a standard to evaluate offers of member States to host the Caribbean Tsunami Warning Centre.[208]

157. The twenty-third session of the Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the Pacific, held in February 2009, adopted the medium-term strategy for the system and a new working group structure, and reviewed the progress on the implementation plan.[209]

158. The Permanent Commission for the South Pacific reported that it was supporting the development of a regional early warning system for tsunamis and the development of a multi-threat alert system for other types of risks of marine origin in the south-east Pacific region. In coordination with IOC, the Permanent Commission supported the formulation and management of the European Commission Humanitarian Office project on adaptive learning mechanisms on tsunami preparedness for coastal communities in Colombia, Ecuador, Peru and Chile.

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[203] IOC contribution.

[204] See http://floods.jrc.ec.europa.eu/eu-floods-directive.

[205] IOC contribution.

[206] Ibid.

[207] See ICG/CARIBE EWS-IV/13.

[208] See also IOC/EC-XLIII/3, p. 14.

[209] IOC contribution.

## D. Recent developments in marine technology

159. *Energy*. The miniature version of the AWS-III, a new wave power system which is believed to address barriers to practical wave energy generation by eliminating moving mechanical parts in contact with seawater, is being field tested in advance of a full-scale test expected to be done in 2012.[210]

160. A new energy storage technique, utilizing gravel-based batteries, is also being tested to allow energy captured from wind turbines and other renewable sources, such as solar, to be delivered at a constant rate.[211] The process is claimed to work with up to 80 per cent energy efficiency and to be cost-effective.[212]

161. *Research*. The Sounding Oceanographic Lagrangrian Observer Thermal Recharging autonomous underwater vehicle, which uses a thermal recharging engine powered by temperature variations at different water depths, has been tested, performing dives to a depth of 500 metres.[213] The technology, which harvests energy from the ocean rather than using an internal power source, has also the potential to augment, with further refinement, ocean monitoring currently done by the Argo array.[214]

162. A new type of autonomous underwater vehicle dubbed autonomous underwater explorers is being developed by the Scripps Institution of Oceanography.[215] The autonomous underwater explorers are expected to fill gaps in data collection compared to other underwater vehicles, collecting fine details of fundamental oceanographic mechanisms.

163. A wireless communication system is being developed for communication with autonomous underwater vehicles working in ice conditions. Field trials have successfully been concluded with communication through metres of ice and up to 1 km in the air being predicted.[216]

164. The Wave Glider is an autonomous surface water research vehicle which directly harvests wave energy for motion rather than converting it into electricity, and uses solar panels to provide energy for satellite communications.[217] The vehicle has been demonstrated in missions exceeding 140 days, with further development expected to make one-year voyages possible.

165. *Shipping*. The Wärtsilä Fuel Cell alpha prototype unit, which is being field tested, is a solid oxide fuel cell-based system utilizing natural gas (methanol).[218] The cell will be producing 20 kilowatts of auxiliary power while producing close to zero nitrogen oxide, sulphur oxide and particulate emissions.

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[210] See www.awsocean.com/Prototype_tested_Loch_Ness_.aspx.

[211] See www.isentropic.co.uk/index.php?page=news-2 stories from 26 April 2010 and 21 July 2010.

[212] Ibid.

[213] See www.jpl.nasa.gov/news/news.cfm?release=2010-111.

[214] For details on the Argo, see A/64/66/Add.1, para. 141.

[215] See scrippsnews.ucsd.edu/Releases/?releaseID=1031.

[216] See www.wfs-tech.com/sandbox/index.php/news/through-ice_radio_communications.

[217] See www.liquidr.com/home.aspx.

[218] See www.wartsila.com/,en,press,0,pressrelease,B8CE880F-7742-401E-B249-D96D90AFA23A,A75E805D-9A41-4648-A785-0E492D799EEE,,.htm.

166. The *Yamatai*[219] has been equipped with an air-lubrication system which reduces friction resistance with seawater by generating air bubbles at the base of the vessel.[220] The system is expected to result in 10 per cent less $CO_2$ emissions. The 15-metre long prototype *Stena Airmax* also aims to reduce friction by having a cavity filled with air at the bottom of the hull to reduce surface area in contact with the water.[221] The reduction of friction is expected to amount to energy savings of 20 to 30 per cent.

## E. Submarine cables and pipelines

167. With an increasing reliance on networks of cables and pipelines and the expansion of these networks to cover a wider expanse of the globe,[222] the need was expressed by some States to consider the gaps in the existing legal regime regarding submarine cables,[223] a need which has been exacerbated by the effects of cable breakage incidents.[224]

168. In the interim, better implementation of article 113 of the Convention may help to address the current challenges with regard to cable and pipeline management.[225] Several examples of national legislation include the Submarine Telegraph Act 1885,[226] later amended by the Continental Shelf Act 1964[227] and the Marine and Coastal Access Act (MCA) 2009 of the United Kingdom;[228] the Submarine Cables and Pipelines Protection Act 1963 of Australia, as amended;[229] and the Submarine Cables and Pipelines Protection Act 1996[230] of New Zealand.

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219 The *Yamatai*, a Japanese transport vessel, is a special heavy load carrier with roll-on, roll-off rampway to transport thousand-ton prefabricated structures of plant facilities to be installed on oil/gas development sites, or industrial locations; see www.nyk.com/english/release/788/NE_100326.html.

220 Ibid.

221 See www.stenabulk.com/en/NewsPress/Pressreleases/2010/Unique-ship-prototype-named-in-Gothenburg.

222 A/64/66/Add.2, para. 85, A/65/69, para. 288.

223 A/65/69, para. 71.

224 For example the breakage of the SEA-ME-WE cable. See news.bbc.co.uk/2/hi/technology/7222536.stm and www.pcworld.com/businesscenter/article/ 156089/cable_repairs_set_back_by_second_undersea_break.html.

225 On 14 and 15 December 2009, the Centre for International Law of the National University of Singapore organized a Workshop on Submarine Cables and the Law of the Sea, in cooperation with the International Cables Protection Committee, to examine the practice of industry and governments on submarine cables in the context of the legal regime set out in the United Nations Convention on the Law of the Sea. See http://cil.nus.edu.sg/programmes-and-activities/past-events/workshop-on-submarine-cables-and-the-law-of-the-sea-on-14-15-december-2009/.

226 See www.opsi.gov.uk/acts/acts1885/pdf/ukpga_18850049_en.pdf.

227 See www.opsi.gov.uk/acts/acts1964/PDF/ukpga_19640029_en.pdf.

228 See www.opsi.gov.uk/acts/acts2009/pdf/ukpga_20090023_en.pdf.

229 See www.comlaw.gov.au/ComLaw/Legislation/ActCompilation1.nsf/0/04C05CDE50D5DF75CA25749000023C06/$file/SubmarineCablesPipeProtect63_WD02.pdf.

230 See www.legislation.govt.nz/act/public/1996/0022/latest/whole.html?search=ts_act_crimes+act_resel#dlm375809.

169. A study on submarine cables was issued in 2009 by the UNEP World Conservation Monitoring Centre and the International Cable Protection Committee.[231]

### F. Protection of archaeological and historical objects

170. The Scientific and Technical Advisory Body to the Meeting of States Parties to the Convention on the Protection of the Underwater Cultural Heritage held its first meeting in June 2010, during which it made a number of recommendations[232] for the next Meeting of States Parties, which is expected to be held in 2011. Recommendation 5/MAB1, encouraging States to make their departments and agencies share information with archaeologists, is particularly pertinent as it is understood that there is more information on shipwrecks with such departments and agencies than with archaeologists.

## IX. Conservation and management of marine living resources

### A. Marine fishery resources

171. Global marine fisheries provide nearly 1 billion people around the world with fish as their primary source of animal protein. Fisheries also support approximately 170 million jobs and generate $35 billion in income to fishing households annually. Global marine fisheries, however, are currently facing potential collapse and are underperforming in economic and social terms. A UNEP report has estimated that greening the fisheries sector, by rebuilding depleted stocks and putting in place effective management measures, could increase the marine fisheries catch from 80 million tons to 112 million tons per year, which could generate a total catch value of approximately $119 billion a year, against the current $85 billion, and raise the total global income of fishing households from $35 billion to $44 billion a year.[233]

172. In this regard, fisheries play an important economic role and contribute to sustainable development in many countries, in particular small island developing States. For example, over 2 million tons of tuna are caught annually in the Western Pacific tuna fisheries, with a landed value of over US$ 3 billion, almost half of which is taken in the waters of Pacific small island developing States. The first preparatory meeting for the 2012 United Nations Conference on Sustainable Development, held in New York in May 2010, highlighted the need to strengthen international governance of shared oceans and marine resources. The meeting further underlined the necessity of working within the competent existing organizations and arrangements to promote sustainability of global fish stocks and mitigate the impacts of fishing activities on the global marine environment.[234]

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[231] "Submarine cables and the oceans: connecting the world", available at www.unep-wcmc.org/pdfs/ICPC-UNEP_Cables.pdf.

[232] See document UCH/10/1.MAB/220/6 of 17 June 2010 at http://unesdoc.unesco.org/images/0018/001882/188291e.pdf.

[233] UNEP Green Economy preview report, available at www.unep.org/greeneconomy.

[234] Contribution of the Department of Economic and Social Affairs.

173. In this regard, the resumed Review Conference (see para. 10 above) stressed the mainstreaming of efforts to assist developing States, in particular the least developed and small island developing States, in the context of the Agreement with other relevant international development strategies with a view to enhancing international coordination to enable them to develop their national capacity to exploit fishery resources, consistent with the duty to ensure the conservation and management of those fisheries resources.[235]

174. The importance of ensuring adequate technical assistance for developing States for the implementation of effective fisheries management systems and measures has also been discussed in the negotiations pursuant to the World Trade Organization (WTO) Doha Development Agenda and the elaboration of new disciplines on fisheries subsidies.[236]

### 1. Review by the General Assembly of actions taken by States and regional fisheries management organizations and arrangements in response to paragraphs 83 to 90 of resolution 61/105

175. At its sixty-fourth session, in 2009, the General Assembly conducted a review of the actions taken by States and regional fisheries management organizations and arrangements to regulate bottom fishing activities and protect vulnerable marine ecosystems.[237] The results of that review are reflected in resolution 64/72.

176. At its sixty-sixth session, in 2011, the General Assembly will conduct a further review of the actions taken by States and regional fisheries management organizations and arrangements in response to paragraphs 80 and 83 to 87 of resolution 61/105 and paragraphs 117 and 119 to 127 of resolution 64/72 with a view to ensuring effective implementation of the measures and to make further recommendations, where necessary. The Secretary-General will also convene a two-day workshop in 2011 to discuss implementation of these paragraphs. The General Assembly is expected to take these discussions into account during its review.[238] A number of regional fisheries management organizations and arrangements reported on actions taken to implement the relevant provisions of resolutions 61/105 and 64/72.[239]

177. FAO reported that it had initiated a programme to support implementation of the FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas.[240] In 2009 and 2010, several workshops were organized on specific topics, such as vulnerable deep-sea species identification, and a survey was conducted on the seamounts of the Southern Indian Ocean through the Ecosystem approach to fisheries-Nansen project, in collaboration with a Global Environment Facility project led by the International Union for Conservation of Nature and

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[235] Contribution of the Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States. See outcome of the resumed Review Conference, A/CONF.210/2010/7, annex.

[236] WTO contribution.

[237] Detailed information on the actions taken by States and regional fisheries management organizations and arrangements to sustainably manage fish stocks and protect vulnerable marine ecosystems from destructive fishing practices was provided in the report of the Secretary-General (A/64/305).

[238] General Assembly resolution 64/72, paras. 128 and 129.

[239] North East Atlantic Fisheries Commission and South East Atlantic Fisheries Organization contributions.

[240] See A/64/305, para. 195.

UNDP.[241] In May 2010, a workshop was hosted by the Republic of Korea to identify challenges and potential solutions for implementation of the FAO Guidelines. In fall 2010, FAO, with the support of the Government of France, will begin development of a global database on vulnerable marine ecosystems in the high seas, which will improve the dissemination of information on these ecosystems and enable more responsible bottom fisheries.[242]

### 2. FAO Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing

178. On 22 November 2009, the Conference of FAO approved the Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing. The Agreement seeks to implement effective port State measures as a means of ensuring the long-term conservation and sustainable use of living marine resources and marine ecosystems, by providing clear procedures for vessels to follow when requesting port entry and, conversely, for port States in relation to vessel inspections and other responsibilities, such as the transmittal of inspection results.[243] With regard to developing States, the instrument recognizes the need to ensure that all parties, irrespective of their geographic location and development status, have the human and material means to implement the instrument. The success of the Agreement will depend on the extent to which parties are prepared and capable of exchanging information relating to vessels suspected of engaging, or found to have engaged, in illegal, unreported and unregulated fishing.[244]

179. The General Assembly and the resumed Review Conference on the United Nations Fish Stocks Agreement have encouraged States to take actions with a view to the early entry into force of the new instrument.[245] There are 15 signatories so far, including the European Union.[246]

### 3. Performance reviews of regional fisheries management organizations

180. Five regional fisheries management organizations have held performance reviews since 2006,[247] and another six performance reviews are being considered or planned in the near future.[248] The resumed Review Conference recommended that

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[241] FAO contribution.

[242] Further information on the FAO programme can be found at www.fao.org/fishery/topic/4440/en.

[243] The annexes to the instrument contain the advance information to be provided by vessels seeking entry to ports, as well as guidelines for inspection procedures, the handling of inspection results, information systems and training requirements.

[244] FAO contribution. For information on the status of the Agreement, see www.fao.org/Legal/treaties/037s-e.htm.

[245] See General Assembly resolution 64/72, para. 55 and outcome of the resumed Review Conference, A/CONF.210/2010/7, annex.

[246] See www.fao.org/Legal/treaties/037s-e.htm.

[247] Commission for the Conservation of Antarctic Marine Living Resources (2008), Commission for the Conservation of Southern Bluefin Tuna (2008), International Commission for the Conservation of Atlantic Tunas (2008), Indian Ocean Tuna Commission (2008/09) and North East Atlantic Fisheries Commission (2006).

[248] General Fisheries Commission for the Mediterranean, Inter-American Tropical Tuna Commission, Northwest Atlantic Fisheries Organization, North Pacific Anadromous Fish Commission, South East Atlantic Fisheries Organization and Western and Central Pacific Fisheries Commission. Also see the report of the Secretary-General to the resumed Review Conference on the United Nations Fish Stocks Agreement, A/CONF.210/2010/1, paras. 247-299.

States and regional economic integration organizations, individually and collectively through regional fisheries management organizations and arrangements, undertake performance reviews that included some element of independent evaluation not later than 2012, undertake such reviews on a regular basis, for example every five years, and ensure that information about actions taken to implement the recommendations from performance reviews was made publicly available.[249] General Assembly resolution 64/72 also urged States to undertake performance reviews of regional fisheries management organizations and arrangements.[250]

### 4. Global record of fishing vessels

181. The resumed Review Conference recommended that States and regional economic integration organizations expedite efforts through FAO, in cooperation with IMO, to create a unique vessel identifier system as part of a comprehensive global record of fishing vessels that included refrigerated transport and supply vessels. An FAO technical consultation will be held in November 2010, and preparations have included studies on the formulation and use of a unique vessel identifier, which have noted the utility of existing numbering schemes both within and outside the fisheries sector. Other developments have included capacity-building and user needs assessment, awareness-raising through seminars and presentations, technical studies on information technology issues and a study on the implications for a phased approach to implementing the global record.[251] A website for documents associated with the global record has also been launched.[252]

### 5. Cooperation among regional fisheries management organizations

182. In 2006, the Review Conference on the United Nations Fish Stocks Agreement recommended that States and regional fisheries management organizations strengthen and enhance cooperation among existing and developing regional organizations, including increased communication and further coordination of measures.

183. Since the Review Conference, the regional fisheries management organizations that regulate highly migratory fish stocks have held two joint meetings in the context of the so-called "Kobe process". These efforts have led to cooperation to harmonize catch documents and vessel registries, combat illegal, unreported and unregulated fishing, coordinate observer programmes for trans-shipment and provide relevant information through a common website (www.tuna-org.org). A number of workshops have also been planned relating to best practices of scientific advice, monitoring, control and surveillance measures, by-catch and management of tuna fisheries.[253] The third joint meeting will be held in 2011. In addition, the secretariats of these regional fisheries management organizations have held five meetings since the Review Conference in 2006.[254]

184. It has been suggested that, since the Kobe process has proven itself successful in coordinating the work of the regional fisheries management organizations that

[249] Outcome of the resumed Review Conference, A/CONF.210/2010/7, annex.
[250] See, for example, General Assembly resolution 64/72, paras. 102-104.
[251] FAO contribution.
[252] See www.fao.org/fishery/GlobalRecord/en.
[253] See A/CONF.210/2010/7, para. 80.
[254] A/CONF.210/2010/1, para. 229.

regulate highly migratory fish stocks, a similar coordination initiative should be explored for regional fisheries management organizations and arrangements that regulate straddling fish stocks.[255] In this regard, the resumed Review Conference invited regional fisheries management organizations with competence to manage straddling fish stocks to consider holding joint meetings to exchange views on key issues and to share best practices.[256]

### 6. Conservation and management of highly migratory species

185. The fifteenth meeting of the Conference of the Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora, in March 2010, discussed a number of listing proposals for highly migratory species. In June 2010, the Organization for the Promotion of Responsible Tuna Fisheries adopted a resolution that promoted control of excessive fishing capacity.[257] The resolution requested FAO and regional fisheries management organizations with the competence to manage highly migratory fish stocks to take measures to address the problem.

186. At the regional level, the 2004 Convention for the Strengthening of the Inter-American Tropical Tuna Commission entered into force on 27 August 2010. The new instrument replaces the 1949 Convention between the United States and the Republic of Costa Rica (Antigua Convention), which established the Commission, and gives more legal certainty to the work of the Commission.[258]

187. PERSGA has initiated a regional shark assessment programme to establish and maintain a regular periodic assessment of the status of sharks and their management in the region in order to assist effective management policy, identify cost-effective strategies, ensure sustainability and strengthen regional cooperation.[259]

188. The Secretariat of the Pacific Community reported that regular stock assessments of the major western central Pacific tuna species were undertaken at the regional level, and a major tuna tagging project was completed to improve information on the resources. In addition, country-specific information had been provided for national tuna management plans, national tuna databases had been established and observers had been trained to achieve 100 per cent coverage on purse seiners.[260]

189. The Permanent Commission for the South Pacific participated in a regional project for the conservation and management of sharks in Latin America and the Caribbean. It supported and participated in national workshops convened by its member States on the topic. A regional workshop was also held to train national authorities in the implementation of national plans of action for the conservation of sharks, within the framework of the new regional plan for the conservation of sharks, rays and chimaeras in the South-East Pacific, as well as the FAO International Plan of Action for the Conservation and Management of Sharks.[261]

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[255] See A/CONF.210/2010/7, para. 81.

[256] Outcome of the resumed Review Conference, A/CONF.210/2010/7, annex.

[257] See www.oprt.or.jp.

[258] Contribution of the Inter-American Tropical Tuna Commission.

[259] PERSGA contribution.

[260] Contribution of the Secretariat of the Pacific Community.

[261] Contribution of the Permanent Commission for the South Pacific.

## B. Whales and other cetaceans

190. As migratory species, whales and other cetaceans remain vulnerable to a number of activities and pressures, including chemical pollution, ship strikes, harvesting, underwater noise, by-catch, ingestion of marine litter and the impacts of climate change.

191. The future of the International Whaling Commission, including the future of the 1982 moratorium on commercial whaling and the 1994 revised management procedure, was one of the focuses of the sixty-second annual meeting of the Commission in June 2010. In particular, with a view to facilitating consensus on this issue by the agreed deadline of 2010, the Chair and Vice-Chair of the Commission had put forward a proposed consensus decision[262] to improve the conservation of whales, on the basis of discussions within the working group on the future of the Commission and a support group.[263] The Commission could not reach consensus on the proposed decision.[264]

192. The Commission also reviewed the status of a number of large whale stocks, giving special attention to the endangered Western North Pacific gray whale. The Commission endorsed a scientific committee's recommendation to postpone until 2011 a seismic survey planned in an area and at a time when the highest number of gray whales is present. The Commission agreed that anthropogenic mortality of the endangered Western North Atlantic right whale population, including through ship strikes and entanglements, should be reduced to zero. The draft conservation management plan for Western gray whales was considered a model for future plans and was endorsed by the Commission. Revised annual quotas for indigenous whaling were approved for West Greenland. In relation to small cetaceans, the Commission expressed concern over the status of the Atlantic humpback dolphin, the critically endangered vaquita in Mexico, the franciscana in Argentina, Brazil and Uruguay, the Irrawaddy dolphin in the Mekong River and the Baltic Sea harbour porpoise.[265]

193. The Commission endorsed the report of a workshop it had organized in April 2010 on welfare issues associated with euthanasia and the entanglement of large whales. Member States of the Commission were urged to intensify efforts to properly determine the extent of the problem and to find effective mitigation measures. The Commission also extensively discussed whale-watching, noting that it was important that the expanding whale-watching industry be carefully managed so as not to cause adverse effects on cetaceans. The Conservation Committee standing working group on whale-watching will work with the Scientific Committee to prepare a five-year strategic plan for the management of whale-watching.[266]

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[262] Composed of Antigua and Barbuda, Australia, Brazil, Cameroon, Germany, Iceland, Japan, Mexico, New Zealand, St. Kitts and Nevis, Sweden and the United States.

[263] For key features of the decision, see "Proposed Consensus Decision to Improve the Conservation of Whales from the Chair and Vice-Chair of the Commission", IWC document IWC/62/7rev.

[264] IWC press release at http://iwcoffice.org/meetings/meeting2010.htm.

[265] Ibid.

[266] Ibid.

194. Concerning the International Convention for the Regulation of Whaling, Australia instituted proceedings before the International Court of Justice against the Government of Japan in May 2010 (see para. 394 below).[267]

## X. Marine biological diversity

195. The General Assembly declared 2010 the International Year of Biodiversity.[268] The Assembly will hold a high-level meeting on biodiversity on 22 September 2010, with thematic panels on framing the post-2010 biodiversity strategy; ensuring the means for implementing that strategy; deriving benefits from biodiversity for development and poverty alleviation; and ensuring that measures to meet the objectives of the Convention on Biological Diversity and the United Nations Framework Convention on Climate Change are mutually supportive and reinforcing.[269] In the context of the last issue, discussions will consider what can be done to ensure that the oceans can continue to function as important blue carbon sinks.[270] This will provide an important opportunity to address the relation between the oceans, their biodiversity and climate change.

196. In 2002, the World Summit on Sustainable Development agreed on actions to significantly reduce by 2010 the rate of loss of biological diversity, which was recognized as playing a critical role in overall sustainable development and poverty eradication.[271] While this commitment has helped to stimulate action to safeguard biodiversity, the target has not been met.[272] As regards marine biodiversity, coastal habitats continue to decline in extent, threatening highly valuable ecosystem services, including the removal of significant quantities of carbon dioxide from the atmosphere.[273] Estimates show a high risk of dramatic loss of marine biodiversity and of services from marine and coastal ecosystems.[274] In particular, climate change has been identified as having serious repercussions on biodiversity, including marine biodiversity, which in turn affects the climate by altering the capacity of natural systems to absorb greenhouse gases.[275]

197. The expected consideration, by the Conference of the Parties to the Convention on Biological Diversity at its tenth meeting in October 2010, of a revised and updated strategic plan for the Convention, including new biodiversity targets for the post-2010 period, and the in-depth consideration of marine and

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267 International Court of Justice contribution.

268 Resolution 61/203.

269 A/64/865.

270 Ibid., paras. 71-78.

271 Plan of Implementation of the World Summit on Sustainable Development, *Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August-4 September 2002* (United Nations publication, Sales No. E.03.II.A.1 and corrigendum), chap. I, resolution 2, annex, para. 44. The target was adopted by the sixth Conference of the Parties to the Convention on Biological Diversity and later endorsed by the General Assembly.

272 Secretariat of the Convention on Biological Diversity, "Global Biodiversity Outlook 3" (Montreal, 2010), p. 9.

273 Ibid., p. 46.

274 Ibid., p. 80.

275 Council of Europe, Parliamentary Assembly, recommendation 1918 (2010); Document 12198, report of the Committee on the Environment, Agriculture and Local and Regional Affairs.

coastal issues, will also provide an opportunity to address some of the challenges identified above.

## A. Measures to address activities and pressures on marine biological diversity

198. *General Assembly Ad Hoc Open-ended Informal Working Group*. The Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction held its third meeting from 1 to 5 February 2010.[276] The Working Group formulated recommendations for consideration by the General Assembly at its sixty-fifth session.[277] The recommendations address the strengthening of the information base; capacity-building and technology transfer; cooperation and coordination in implementation; cooperation and coordination for integrated ocean management and ecosystem approaches; environmental impact assessments; area-based management tools, in particular marine protected areas; marine genetic resources; and the way forward. The outcome of the meeting also includes a Co-Chairperson's summary of discussions on key issues, ideas and proposals raised during the deliberations under the various agenda items.[278]

199. *Convention on Biological Diversity*. The secretariat of the Convention on Biological Diversity reported that two expert workshops had been held and a number of studies prepared, pursuant to decision IX/20 of the Conference of the Parties to the Convention[279] (see para. 298), in preparation for the fourteenth meeting of the Convention's Subsidiary Body on Scientific, Technical and Technological Advice in May 2010 and the tenth meeting of the Conference of the Parties in October 2010.

200. The Expert Workshop on Scientific and Technical Aspects relevant to Environmental Impact Assessment in Marine Areas beyond National Jurisdiction held in November 2009 provided guidance on the future development of scientific and technical guidance on environmental impact assessments and strategic environmental assessments in marine areas beyond national jurisdiction. The Workshop proposed revisions to the Convention's Voluntary Guidelines on Biodiversity-inclusive Environmental Impact Assessment and Strategic Environmental Assessment[280] in order to make existing guidelines applicable to marine systems in planning human uses of the ocean and coastal waters.[281]

201. Pursuant to Convention on Biological Diversity decision IX/20, the secretariat of the Convention, FAO and UNEP organized an expert meeting on the impacts of destructive fishing practices, unsustainable fishing and illegal, unreported and unregulated fishing on marine biodiversity and habitats, in Rome in September

[276] See General Assembly resolutions 59/24, 60/30, 63/111 and 64/71.

[277] The report of the meeting is available as document A/65/68.

[278] See A/65/68, sections I and II.

[279] CBD contribution. See also A/63/63/Add.1, paras. 133-134. The Division participated in the workshop.

[280] The Guidelines are contained in decision VIII/28 of the Convention on Biological Diversity.

[281] The report of the workshop is contained in document UNEP/CBD/EW-EIAMA/2 (available at www.cbd.int/doc/?meeting=EWEIAMA-01).

2009.[282] The secretariat also prepared reports on available scientific information on potential impacts of direct human-induced ocean fertilization on marine biodiversity, in collaboration with the UNEP World Conservation Monitoring Centre and IMO;[283] and on ocean acidification and its impacts on marine biodiversity and habitats, in collaboration with the World Conservation Monitoring Centre.[284]

202. The fourteenth meeting of the Convention's Subsidiary Body on Scientific, Technical and Technological Advice adopted recommendation XIV/3, entitled "In-depth review of the implementation of the programme of work on marine and coastal biological diversity", to be considered by the tenth meeting of the Conference of the Parties to the Convention in October 2010. The recommendation provides guidance on, inter alia, marine and coastal protected areas; conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction; climate-change-related aspects of marine and coastal biodiversity, including the potential adverse impacts on marine and coastal biodiversity of ocean acidification; the impacts of destructive fishing practices, unsustainable fishing and illegal, unreported and unregulated fishing on marine and coastal biodiversity; the valuation of marine and coastal biodiversity and ecosystem services; and collaboration with the Regular Process.[285]

203. *Intergovernmental Science Policy Platform on Biodiversity and Ecosystem Services*. The third meeting of the UNEP ad hoc intergovernmental and multi-stakeholder meeting on an intergovernmental science-policy platform on biodiversity and ecosystem services, held in June 2010, concluded that such a platform should be established to strengthen the science-policy interface for biodiversity and ecosystem services for the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development.[286] The meeting invited the General Assembly to consider its conclusions and take appropriate action for the establishment of an intergovernmental platform.

## B. Measures for specific ecosystems and species

204. *Corals*. The twenty-fourth meeting of the International Coral Reef Initiative, held in January 2010, adopted a recommendation for the Caribbean region aimed at enhancing and strengthening regional cooperation. It also adopted a recommendation on international trade in coral reef species and related products, encouraging parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora to adopt measures that improve conservation and management of corals, coral reefs and coral reef species, including sharks. The meeting also adopted resolutions on the "Call to Action"[287] establishing an ad hoc committee to review the "Call to Action"; and coral reef-associated fisheries,

[282] Convention on Biological Diversity and UNEP contributions. The report of this expert meeting is contained in document UNEP/CBD/SBSTTA/14/INF/6 (available at www.cbd.int/doc/?meeting=SBSTTA-14).

[283] The report was published as Convention on Biological Diversity Technical Series No. 45 (www.cbd.int/doc/publications/cbd-ts-45-en.pdf).

[284] Ibid., Technical Series No. 46 (www.cbd.int/doc/publications/cbd-ts-46-en.pdf).

[285] UNEP/CBD/COP/10/3, annex, recommendation XIV/3.

[286] UNEP/IPBES/3/L.2/Rev.1, annex, para. 6.

[287] The four pillars of the "Call to Action" are coastal management, capacity-building, research and monitoring and review.

establishing an ad hoc committee to compile information in order to develop a resolution on coral reef-associated fisheries for consideration at the next general meeting in November 2010.[288]

205. UNEP reported that it had continued to provide support to the Initiative and its operational networks, namely the Global Coral Reef Monitoring Network and the International Coral Reef Action Network, including in relation to coral reef awareness-raising activities in the Andaman Islands and the Gulf of Mannar, educational materials for schools in the Philippines and in South Africa, and information for policymakers on the economic value of coral reefs in the wider Caribbean. UNEP also continued to support the ecological and socio-economic monitoring of coral reefs around the world carried out by the Global Coral Reef Monitoring Network and Reef Check.

206. In the context of the International Coral Reef Action Network, the UNEP World Conservation Monitoring Centre is developing a project focusing on the continued provision of coral reef ecosystem services and functions, the assessment of impact of predicted changes on the livelihoods of coastal communities and the introduction of cutting-edge science and tools that can build the capacity of institutions, service providers and coastal people to innovate and adapt to these changes while improving the ecological resilience of coral ecosystems. The Centre is also providing coordination support to the International Coral Reef Crime Scene Investigation programme of the International Coral Reef Initiative, which provides multi-sector training and tools (based on international best practices and standards) to improve the assessment and documentation of anthropogenic impacts and to maximize accountability for environmental damage.[289] A sustainable livelihoods enhancement and diversification approach has also been developed in the context of the UNEP-European Union South Asia Project.[290]

207. *Wetlands*. In 2010, Sri Lanka designated the Vankalai Sanctuary as its fourth Wetland of International Importance. The site consists of several ecosystems which range from arid-zone thorn scrubland, arid-zone pastures and maritime grasslands, sand dunes, mangroves, salt marshes, lagoons, tidal flats, sea-grass beds and shallow marine areas.[291] The Ramsar Convention secretariat has prepared a series of fact sheets illustrating the great diversity of ecosystem services delivered by wetlands and their values.[292]

208. *Deep sea*. Over its decade-long research into the diversity, distribution and abundance of marine life, the Census of Marine Life has inventoried 17,650 deep-sea species down to 5,000 metres. Five of the Census' 14 field projects research the oceans, each dedicated to the study of life in progressively deeper realms. The

[288] France-Samoa ICRI GM 24/2010/Summary Record, available at www.icriforum.org/ICRIGM24.

[289] UNEP contribution.

[290] See www.icran.org/action-southasia.html and www.southasiamcpaportal.org.

[291] For more information see www.ramsar.org/cda/en/ramsar-activities-40ramsar-ramsar40en/main/ramsar/1-63-443%5E24651_4000_0__.

[292] The fact sheets are available at www.ramsar.org/cda/en/ramsar-pubs-info-ecosystem-services/main/ramsar/1-30-103%5E24258_4000_0__.

Census concluded its work in October 2010, when its final reports were presented and discussed in London and three books launched.[293]

209. *Cetaceans*. In response to resolution 8.22 (2005) of the Conference of the Parties to the Convention on Migratory Species of Wild Animals, the secretariat of the Convention, in collaboration with the Whale and Dolphin Conservation Society, has undertaken work towards the development of a programme of work on adverse human-induced impacts on cetaceans. The work includes a summary of regions and listed impacts and a review of the extent to which the Convention on Migratory Species of Wild Animals, its related agreements and other relevant processes are addressing listed impacts, including ship strikes, through their threat-abatement activities. The draft programme of work, including an analysis of listed impacts and threat abatement, is expected to be completed in the second half of 2010 and sent to relevant organizations for their comments.[294]

210. At their sixth meeting, in September 2009, the parties to the Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas adopted a new Conservation Plan for Harbour Porpoises in the Baltic Sea and a revised and updated version of the Recovery Plan for Baltic Harbour Porpoises. The secretariat of the Agreement and of the Convention on Migratory Species of Wild Animals indicated that the Agreement's new triennial work plan (2010-2012) should have a special focus on underwater noise and by-catch. A new initiative for improved collaboration with fishing communities to reduce by-catch was launched, which included the convening of a workshop in March 2010 under the auspices of the Agreement and the European Cetacean Society, with input from the European Commission.[295]

211. The secretariat of the Agreement has supported the production of an online review on distribution, behaviour, migration and threats of toothed whales,[296] which updates and expands the 2004 Review of Small Cetaceans, contains a summary article on cetacean conservation under the Convention on Migratory Species of Wild Animals and features distribution maps of the International Union for Conservation of Nature for all toothed whale species.[297]

212. *Other migratory species*. The Memorandum of Understanding on the Conservation of Migratory Sharks concluded under the auspices of the Convention on Migratory Species of Wild Animals in February 2010 entered into force on 1 March 2010. The Memorandum of Understanding applies to the seven shark species listed in Appendix I of that Convention,[298] which lists migratory species threatened with extinction. Parties to the Convention are required to prohibit hunting, fishing and deliberate killing of species listed in Appendix I and implement

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[293] Census of Marine Life, "From the Edge of Darkness to the Black Abyss: Marine Scientists Census 17,500+ Species and Counting", 17 November 2009, and "Explorers Inventory Hard-to-See Sea Life: Tiny but Mighty Microbes, Plankton, Larvae, Burrowers — Keys to Earth's Food and Respiratory Systems", 12 April 2010.

[294] Contribution of the Convention on Migratory Species of Wild Animals.

[295] See report of the Cetacean By-catch Mitigation Workshop, document AC17/Doc.4-07 (C), available from www.ascobans.org/index0502.html.

[296] Available from www.cms.int/reports/small_cetaceans/index.htm.

[297] Contribution of the Convention on Migratory Species of Wild Animals.

[298] Great White, Basking, Whale, Porbeagle, Spiny Dogfish, Shortfin and Longfin Mako Sharks (Rhincodon typus, Cetorhinus maximus, Carcharodon carcharias, Isurus oxyrinchus, Isurus paucus, Lamna nasus, and Northern hemisphere populations of Squalus acanthias).

comprehensive conservation activities.[299] The joint secretariat of the Convention on Migratory Species of Wild Animals and the Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas has supported the publication of a review on climate change vulnerability of migratory species.[300]

213. *Convention on International Trade of Endangered Species of Wild Fauna and Flora*. At its fifteenth meeting, held in March 2010, the Conference of the Parties to the Convention on International Trade of Endangered Species of Wild Fauna and Flora discussed a number of items relating to marine species, including cooperation with FAO; introduction from the sea; identification of coral specimens in trade; trade and conservation of hawksbill turtle, humphead wrasse, sharks and stingrays[301] and Corralliidae; criteria for the inclusion of species in appendices I and II to the Convention; and proposals for including several shark species,[302] porbeagle, spiny dogfish, Atlantic bluefin tuna[303] and red and pink coral in the appendices. Proposals to include these species in the appendices to the Convention were not agreed upon, some delegations indicating that issues concerning the conservation and management of marine species should be left to regional fisheries management organizations. On introduction from the sea, the Conference of the Parties adopted a resolution and a decision. In resolution Conf. 14.6 (Rev. CoP15), the Conference of the Parties clarifies the meaning of "marine environment not under the jurisdiction of any State" and requests parties to respond in a timely manner to requests for information necessary for issuing a certificate of introduction from the sea or verifying the authenticity and validity of such a certificate. In decision 14.48 (Rev. CoP15), the Conference of the Parties requests the Standing Committee to establish a working group on introduction from the sea to consider, inter alia, a definition for "transportation into a State", clarification of the term "State of introduction" and the process for issuing a certificate of introduction from the sea. It invites the Division, FAO, regional fisheries management organizations and arrangements, the fishing industry and other intergovernmental organizations and non-governmental organizations to participate in the working group.[304]

## C. Marine genetic resources

214. As research by a number of public and private initiatives continues to uncover the potential of marine micro-organisms,[305] the contribution that genetic resources

[299] See www.cms.int.

[300] See www.cms.int/bodies/ScC/16th_scientific_council/Eng/ScC16_Inf_08_1_Final_Report_Climate_Change_Vulnerability_of_Migratory_Species_E.pdf.

[301] See documents CoP15 Doc.53 and Conf.12.6 of the Convention on International Trade of Endangered Species of Wild Fauna and Flora.

[302] See documents CoP15 Prop.15, CoP15 Prop.16, CoP15 Prop.17, CoP15 Prop.18 of the Convention on International Trade of Endangered Species of Wild Fauna and Flora.

[303] See document CoP15 Prop.19 of the Convention on International Trade of Endangered Species of Wild Fauna and Flora.

[304] Contribution of the secretariat of the Convention on International Trade of Endangered Species of Wild Fauna and Flora. See also www.cites.org.

[305] See Census of Marine Life, "Explorers Inventory Hard-to-See Sea Life: Tiny but Mighty Microbes, Plankton, Larvae, Burrowers — Keys to Earth's Food and Respiratory Systems", 12 April 2010; and J. Craig Venter Institute, "Venter Institute Launches the J. Robert Beyster and Life Technologies 2009-2010 Research Voyage of the Sorcerer II Expedition", 18 March 2009.

can make to food security, health, industrial applications and environmental remediation, among others, continues to be recognized in various forums.

215. With regard to marine genetic resources beyond areas of national jurisdiction, the Ad Hoc Open-ended Informal Working Group of the General Assembly recommended that the Assembly call upon States, in the context of the mandate of the Working Group, to make progress in the discussion, as referred to in paragraph 142 of General Assembly resolution 64/71, on the relevant legal regime on, and implementation gaps in, the conservation and sustainable use of marine genetic resources in areas beyond national jurisdiction in accordance with international law, in particular the United Nations Convention on the Law of the Sea, taking into account the views of States on Parts VII and XI of the Convention.[306]

216. Discussions on an international regime on access and benefit-sharing, which continued in the context of the eighth and ninth meetings of the Convention on Biological Diversity Ad Hoc Open-ended Working Group on Access and Benefit-sharing, concluded with the endorsement of a draft protocol.[307] The draft was finalized and adopted in October 2010 by the tenth meeting of the Conference of the Parties to the Convention.[308]

217. The Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore of the World Intellectual Property Organization (WIPO) was mandated by the WIPO General Assembly in December 2009 to develop an international legal instrument or instruments to ensure the effective protection of genetic resources, traditional knowledge and traditional cultural expressions, for submission to the 2011 session of the Assembly.[309] At its sixteenth session, in May 2010, the Intergovernmental Committee decided to establish intersessional working groups to assist it in its task. It invited the secretariat to prepare a further draft of its document on options for continuing or further work on genetic resources (WIPO/GRTKF/IC/16/6). The document lists options related to defensive protection, disclosure requirements and intellectual property issues in mutually agreed terms for fair and equitable benefit-sharing. The Intergovernmental Committee invited the secretariat to prepare an update of its document on draft intellectual property guidelines for access and equitable benefit-sharing (WIPO/GRTKF/IC/7/9), and a glossary of key terms related to intellectual property and genetic resources. It requested the secretariat to update the database of biodiversity-related access and benefit-sharing agreements currently online on the WIPO website.[310]

218. The FAO Commission on Genetic Resources for Food and Agriculture, at its twelfth session in October 2009, considered progress made on aquatic genetic

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[306] A/65/68, sect. I, para. 19. See also sect. II.

[307] See UNEP/CBD/WG-ABS/9/L.2/Rev.1.

[308] Earth Negotiations Bulletin, Summary of the Resumed Ninth Meeting of the Working Group on Access and Benefit-sharing of the Convention on Biological Diversity: 10-16 July 2010, vol. 9, No. 527.

[309] WIPO General Assembly, thirty-eighth (19th ordinary) session, 22 September-1 October 2009, "Matters Concerning the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore", agenda item 28, decision.

[310] Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, sixteenth session, 3-7 May 2010, decisions of the sixteenth session of the Committee.

resources since its last session, including the publication of the Technical Guidelines for Aquaculture Development: Genetic resource management.[311] At its thirteenth session, the Commission will review the information base for aquatic genetic resources and key issues for the state of the world's aquatic genetic resources scheduled to be finalized in 2013. The Commission stressed the need to avoid duplication of efforts with ongoing work, and recognized the United Nations General Assembly's central role in addressing issues relating to the conservation and sustainable use of biodiversity in marine areas beyond national jurisdiction. The Commission also reviewed a scoping study on micro-organisms and invertebrates of relevance to food and agriculture, and considered policies and arrangements for access and benefit-sharing for genetic resources for food and agriculture.[312]

# XI. Protection and preservation of the marine environment and sustainable development

## A. Introduction

219. The resources provided by ocean and coastal ecosystems, as well as various ocean uses, sustain billions of people around the world through, inter alia, the provision of food, shelter, energy, transportation, employment and recreation. The oceans also play a significant role in regulating global climate and the oxygen cycle[313] and are increasingly used as sources of clean renewable energy, such as geothermal energy, hydropower and tidal, wave and thermal energy. Safe, healthy and productive seas and oceans are thus integral to human well-being, economic security and sustainable development. However, many of the drivers of change that lead to biodiversity loss and to changes in ecosystem services are growing in intensity. The extent of dead zones in the oceans has doubled every 10 years since the 1960s. About 400 coastal areas are now periodically or constantly oxygen-depleted owing to fertilizer run-off, sewage discharge and combustion of fossil fuels.[314] Coastal areas are experiencing increasing pressures from population growth and urban expansion, with nearly half the world's largest cities located within 50 kilometres of a coast.[315] The consequences of the grounding of a bulk carrier on the Great Barrier Reef[316] and of the explosion and sinking of an offshore drilling unit in the Gulf of Mexico in April 2010, following which an estimated

[311] See www.fao.org/docrep/011/i0283e/i0283e00.htm.

[312] FAO document CGRFA-12/09/Report.

[313] See UNEP, Blue Carbon: A Rapid Response Assessment, 2009.

[314] UNEP Yearbook 2010.

[315] UNEP Yearbook 2010. Some of the opportunities for, and challenges faced by, coastal cities are featured at the World Expo 2010 in Shanghai on the theme "Better city, better life" (http://en.expo2010.cn/). Also, for the United Nations Pavilion at the Shanghai World Expo, the Division for Ocean Affairs and the Law of the Sea, in cooperation with the Department of Public Information, prepared a DVD entitled "The United Nations Convention on the Law of the Sea in Action". This DVD features an opening statement by the Secretary-General and concluding remarks by the Legal Counsel of the United Nations. The DVD can be viewed at the Division's website at www.un.org/Depts/los.

[316] See Great Barrier Reef Marine Park Authority, "Impacts of the Shen Neng 1 grounding on the Great Barrier Reef, 5 April 2010", available from www.gbrmpa.gov.au/corp_site/oil_spill_and_shipping_incidents/shen_neng_1_grounding.

4.9 million barrels of oil have released into the Gulf,[317] show that the marine environment remains highly vulnerable to accidents linked to shipping, offshore drilling[318] and the operation of pipelines.[319]

220. Balancing human needs with ecosystem health is challenging. In view of the complex interactions between multiple drivers and human feedback, policy decisions designed to manage human activities impacting ecosystems can be hard to make, and even more problematic to evaluate as significant gaps exist in long-term observation and monitoring programmes.[320] The year 2012 will mark the deadline by which States, at the World Summit on Sustainable Development in 2002, had agreed to achieve a number of actions to move forward the protection and preservation of the marine environment to achieve sustainable development, including in relation to the application of ecosystem approaches and the establishment of marine protected areas and representative networks of such areas.[321] It will also see the convening of the United Nations Conference on Sustainable Development. In light of the imminence of these important events, a number of conferences and events have sought to galvanize cooperation towards the achievement of relevant internationally agreed goals as well as raise global awareness of the challenges faced in the sustainable development of the oceans.[322]

221. The United Nations Conference on Sustainable Development will be held in Brazil in 2012 on the theme "Green economy in the context of sustainable development and poverty eradication". At the first preparatory committee meeting for the Conference, which took place in New York in May 2010, the need to strengthen international governance of the oceans and their resources, including the strengthening of marine protected areas and related capacity-building and technical cooperation for marine protection, was highlighted.[323] At its eleventh special session, held in February 2010, the UNEP Governing Council adopted a decision on oceans in which it requested the UNEP Executive Director to support and enhance developing countries' capacity to manage marine and coastal ecosystems sustainably in the context of the Bali Strategic Plan for Technology Support and Capacity-building; and urged Governments to achieve the long-term conservation, management and sustainable use of marine resources and coastal habitats through the appropriate application of the precautionary and ecosystem approaches, and to

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[317] See National Oceanic and Atmospheric Administration, "Federal Science Report Details Fate of Oil from BP Spill", 4 August 2010, available from www.noaanews.noaa.gov/stories2010/20100804_oil.html.

[318] See also Reuters, "Nigeria cautions Exxon Mobil on offshore oil spills", 15 June 2010.

[319] See Agence France-Presse, "Clean-up crews use bare hands against China oil spill", 22 July 2010.

[320] UNEP Yearbook 2010.

[321] See Plan of Implementation of the World Summit on Sustainable Development, *Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August-4 September 2002* (United Nations publication, Sales No. E.03.II.A.1 and corrigendum), chap. I, resolution 2, annex.

[322] These include World Ocean Week in Xiamen in November 2009 on the theme "Promoting Marine Ecological Civilization-Island Protection and Sustainable Utilization" (www.oceanweek.org/en/main.asp); the fifth Global Conference on Oceans, Coasts and Islands which met in May on the theme "Ensuring Survival, Preserving Life, and Improving Governance" (www.globaloceans.org/); and the Sustainable Ocean Summit organized by the World Ocean Council in June 2010 on the theme "Reducing risk, increasing sustainability: solutions through collaboration" (www.oceancouncil.org/site/).

[323] Contribution of the Department of Economic and Social Affairs.

implement long-term strategies in meeting internationally agreed sustainable development goals.[324]

222. The second observance by the United Nations of World Oceans Day, on 8 June 2010, provided an occasion to highlight and discuss the challenges and opportunities in the sustainable development of the oceans and their resources.[325]

## B. Ecosystem approaches

223. The 2002 World Summit on Sustainable Development called for the application by 2010 of the ecosystem approach, the promotion of integrated, multidisciplinary and multisectoral coastal and ocean management at the national level and the provision of encouragement and assistance to coastal States in developing ocean policies and mechanisms on integrated coastal management.[326] While the application of ecosystem approaches has been enhanced in recent years, adequate strategies at different scales (from local to global) should be further developed at local, national and regional levels and in areas beyond national jurisdiction.[327]

224. With regard to marine biodiversity beyond areas of national jurisdiction, the Ad Hoc Open-ended Informal Working Group of the General Assembly addressed the issue of cooperation and coordination for integrated ocean management and ecosystem approaches in its recommendations.[328]

225. FAO continues to promote responsible fisheries development and management through an ecosystem approach to fisheries. Support to individual countries and to regional fisheries bodies has continued, including collaboration with the Secretariat of the Pacific Community and the Nature Conservancy in the production of a guidebook on community-based ecosystem approach to fisheries management for Pacific island States. A university course was held at Legon University in Accra for students from 20 African countries.[329] Relevant work is also being undertaken in facilitating the implementation of the FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas.

226. At the regional level, the North Atlantic Salmon Conservation Organization (NASCO) has recently adopted guidelines relating to the protection, restoration and enhancement of salmon habitat. The secretariat of NASCO notes that fishing gear used for salmon is pelagic in nature and does not affect seamounts, cold water corals and hydrothermal vents, and that it has limited by-catch associated with it. PERSGA notes that lack of awareness and knowledge of the differences between traditional management methods and the ecosystem approach to fisheries are the most

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[324] Decision SS.XI/7, UNEP document UNEP/GCSS.XI/11.

[325] The theme of the second observance of World Oceans Day was "Our oceans: opportunities and challenges". See website of the Division at www.un.org/Depts/los.

[326] Plan of Implementation of the World Summit on Sustainable Development, *Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August-4 September 2002* (United Nations publication, Sales No. E.03.II.A.1 and corrigendum), chap. I, resolution 2, annex, paras. 30 (d) and (e).

[327] Co-Chairs' Concluding Statement, fifth Global Conference on Oceans, Coasts and Islands, 3-7 May 2010, UNESCO, Paris, France, recommendation 3.

[328] A/65/68, sect. I, para. 13. See also sect. II.

[329] FAO contribution.

important obstacles in adopting an ecosystem approach. In that context, PERSGA held a regional workshop on the ecosystem approach in the management of fishery resources in the Red Sea and the Gulf of Aden in October 2009 to, inter alia, assess current practices and activities in fishery management; consider how to move from traditional management to an ecosystem approach; and develop a framework plan to implement the ecosystem approach in the Red Sea and Gulf of Aden.

227. The fifth biennial International Waters Conference of the Global Environment Facility, held in October 2009, focused on climatic variability and change. In that context, conclusions of relevance to ecosystem approaches included the need to balance regional obligations and responsibilities with national capacity in regional governance and management of large marine ecosystems, migratory fisheries and transboundary activities; to include a transboundary integrated ecosystem-based approach to the mainstreaming of climatic variability and change; to strengthen the project and programmatic linkages between freshwater and marine systems as a single management continuum; and to better incorporate socio-economic, political and legal information and analysis in addition to biophysical science in management and governance.[330] An assessment of large marine ecosystems launched at the Conference found that 61 of the world's 64 large marine ecosystems have shown a significant increase in sea surface temperatures in the last 25 years, contributing to changing patterns in marine fish harvests. The assessment also highlighted the fact that an unprecedented amount of nitrogen pollution is causing a greater frequency and extent of harmful algal blooms, oxygen depletion and dead zones.[331]

228. At the regional level, the European Union is funding the "PEGASO" project,[332] designed to bring the science and end-user communities of the Mediterranean and Black Sea Basins together to develop a set of sustainability tools[333] in support of integrated policies for the coastal, marine and maritime realms of the Mediterranean and Black Sea Basins, consistently with the Integrated Coastal Zone Management Protocol for the Mediterranean.[334]

229. The Western Indian Ocean Regional Stocktaking Meeting, held on 29 March 2010 on the theme "Towards an ecosystem-based management programme for the western Indian Ocean", considered progress made in the implementation of all the Global Environment Facility projects under the International Waters portfolio in the western Indian Ocean region, namely the South West Indian Ocean Fisheries Project, the Agulhas and Somali Current Large Marine Ecosystems Project and the Sustainable Coastal Tourism in Africa Project. The Conference of Plenipotentiaries and the Sixth Meeting of Contracting Parties to the Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region endorsed the Strategic Action Programme for the Protection of the Marine and Coastal Environment in the Western Indian Ocean from Land-based Sources and Activities, which contributes to advancing the ecosystem-based

[330] Final Report, fifth biennial Global Environment Facility International Waters Conference.

[331] UNEP, "The UNEP/GEF Large Marine Ecosystem Report: A perspective on changing conditions in LMEs of the world's Regional Seas", UNEP Regional Seas Report and Studies No. 182.

[332] PEGASO stands for "People for Ecosystem-based Governance in Assessing Sustainable development of Ocean and coast".

[333] See https://webgate.ec.europa.eu/fpfis/iwt/node/660.

[334] See www.pegasoproject.eu/.

management approach for the Agulhas and Somali Current Large Marine Ecosystems.[335]

230. In the Caribbean, in the context of the Caribbean Large Marine Ecosystem, pilot projects on transboundary fisheries will trial governance models at the local, national and subregional levels and provide additional knowledge on means of applying ecosystem-based approaches to fisheries management and determining the fisheries' socio-economic importance and sensitivities.[336]

231. The triennial East Asian Seas Congress organized by the Partnerships in Environmental Management for the Seas of East Asia (PEMSEA) was held in November 2009, on the theme "Partnerships at work: local implementation and good practices". It featured thematic sessions on coastal and ocean governance; natural and man-made hazard prevention and management; habitat protection, restoration and management; water use and supply management; food security and livelihood management; and pollution reduction and waste management. Its Third Ministerial Forum provided policy direction for improving and strengthening the implementation of the sustainable development strategy for the seas of East Asia.[337] A workshop on science in ecosystem-based management was held under the theme of coastal and ocean governance.[338]

232. The third European Maritime Day Stakeholder Conference, held in May 2010 in Gijón, Spain, focused on the theme of innovation and the central question of how to foster innovation in policymaking. Various aspects of integrated maritime policy were discussed, including maritime security, transport, environmental protection, the Common Fisheries Policy and coastal tourism.[339]

## C. Degradation of the marine environment from land-based activities

233. A wide range of instruments and initiatives have been developed to address land-based sources of marine pollution, including marine debris. The 1995 UNEP Global Programme of Action for the Protection of the Marine Environment from Land-based Activities sets forth commitments by 109 Governments and the European Union to protect and preserve the marine environment from the adverse environmental impacts of land-based activities. The General Assembly has called upon States to implement it as a matter of priority.[340] The Plan of Implementation of the World Summit on Sustainable Development emphasized the importance of implementing the Global Programme of Action.[341] In addition to the United Nations Convention on the Law of the Sea and the Global Programme of Action, agreements

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[335] See www.unep.org/NairobiConvention/COP6/index.asp and *ASCLME News, vol. 1, No. 1*, March 2010.

[336] UNEP contribution.

[337] See www.pemsea.org/eascongress.

[338] East Asian Seas Congress, Workshop 5: The Science in Ecosystem-based Management, Workshop Proceedings, available from www.pemsea.org/eascongress/international-conference/coastal-and-ocean-governance. The Division also participated in that workshop.

[339] European Maritime Day was initiated in 2008. For more information see http://ec.europa.eu/maritimeaffairs/maritimeday/index_en.html.

[340] Resolution 64/71, para. 127.

[341] See *Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August-4 September 2002* (United Nations publication, Sales No. E.03.II.A.1 and corrigendum), chap. I, resolution 2, annex, para. 33.

such as the Agreement on the Conservation of Albatrosses and Petrels,[342] as well as UNEP regional seas conventions and action plans, are also concerned with marine pollution originating from land-based sources.

### 1. Pollution from land-based activities

234. As much as 80 per cent of marine pollution originates from land-based activities and affects the most productive areas of the marine environment. Although human activities in coastal areas contribute significantly to such pollution, it may also be carried by rivers and other waterways from sources located further inland. Land-based activities which contribute to such pollution range from agriculture to industry to human waste. These include run-off and wastewater from farms, cities and factories, as well as the atmospheric deposition of pollutants such as heavy metals, persistent organic pollutants, litter, nuclear waste, hydrocarbons and chemicals. Municipal wastewater discharges are considered one of the most significant threats to coastal environments worldwide.

235. The Global Programme of Action for the Protection of the Marine Environment from Land-based Activities provides a framework to assist countries in fulfilling their duty to preserve and protect the marine environment from sewage, physical alterations and destruction of habitat, nutrients, sediment mobilization, persistent organic pollutants, oils, litter, heavy metals and radioactive substances. The Coordination Office for the Global Programme of Action within the UNEP Marine Coastal and Ecosystem Branch helps countries to develop comprehensive, continuing and adaptive programmes of action at national and subnational scales to address cross-sectoral issues such as legislation, policies and financing, while implementing concrete activities to protect the marine environment. In 2009, the Coordination Office continued to provide technical assistance to countries in the development and implementation of these programmes of action.

236. The Global Programme of Action is also spearheading a multi-agency approach to advocating and supporting improved wastewater management, which includes a rapid assessment report on wastewater management and the development of an inter-agency work plan under the auspices of UN-Water. The rapid assessment report was launched at World Water Day 2010 on 22 March 2010.[343]

237. In a recent report, UNEP and the United Nations Human Settlement Programme (UN-Habitat) highlighted the urgent need for wastewater management to reduce marine pollution from land-based sources, particularly in light of the increasing number of people living in coastal areas and the waste they produce.[344] It is estimated that 90 per cent of all wastewater in developing countries is discharged untreated directly into rivers, lakes or the oceans. Wastewater can carry pollutants such as pathogens, organic compounds, synthetic chemicals, nutrients, organic matter and heavy metals into the oceans directly or through rivers and groundwater, contributing to eutrophication and the formation of de-oxygenated dead zones in ocean areas. These components can have bio-cumulative, persistent and synergistic characteristics affecting ecosystem health and function, food production, human

[342] See annex 2 to the Agreement, available from www.acap.aq/instruments.

[343] UNEP contribution.

[344] Over a fifth of the global total, 1.6 billion people, are expected to live by the coast by 2015. UNEP and UN-Habitat, "Sick Water: The Central Role of Wastewater Management in Sustainable Development" (2010), p. 9.

health and well-being and undermining human security.[345] Pollution from land-based sources and eutrophication may also affect ecologically sensitive areas, like coral reefs, which can become more sensitive and less able to recover from the effects of climate change.[346] Lack of wastewater management has a direct impact on the biological diversity of aquatic ecosystems, disrupting the fundamental integrity of our life support systems, on which a wide range of sectors depend.[347]

238. The Global Programme of Action is developing a partnership to assess, train and provide tools and advice to countries and regions looking to manage their nutrient loads, through the multi-stakeholder Global Partnership on Nutrient Management. The Global Partnership held its inaugural meeting in October 2009 in The Hague. It will focus initially on consolidating and expanding the range of its participants and on developing and presenting tools and best practices on a web-based platform.

### 2. Marine debris

239. Marine debris, coming primarily from land-based sources, continues to be a serious concern. The main land-based sources of marine litter are municipal landfills located on the coast, riverine transport of waste from landfills, discharges of untreated municipal sewage and storm water, industrial facilities and tourism.[348] Marine litter is an environmental, economic, health and aesthetic problem. It can cause significant damage to marine wildlife. It also threatens marine and coastal biological diversity in productive coastal areas and has the potential to transport invasive alien species from one area to another. Medical and sanitary waste constitutes a health hazard for human beings and can cause serious injury.[349]

240. With regard to marine litter, actions are being undertaken worldwide to combat this form of marine pollution. At the twenty-fourth annual International Coastal Cleanup event, held in September 2009, almost 500,000 volunteers around the world removed 7.4 million pounds of trash from oceans, lakes and rivers.[350]

241. UNEP published the "Guidelines on the use of market-based instruments to address the problem of marine litter".[351] In partnership with IOC, UNEP also prepared the "UNEP/IOC Guidelines on survey and monitoring of marine litter",[352] which aim to assist efforts to address the problem of monitoring and assessment of marine litter.[353] In the publication entitled "Abandoned, lost or otherwise discarded fishing gear",[354] UNEP and FAO profiled a variety of measures currently being taken to reduce abandoned, lost or otherwise discarded fishing gear.[355] In March 2011, UNEP and the National Oceanic and Atmospheric Administration of the

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345 Ibid., p. 19.

346 UNEP and Stakeholder's Forum, Blue Diamonds newsletter, pp. 4-5.

347 Ibid., p. 15.

348 UNEP, "Marine litter, an analytical overview" (2005), p. 5.

349 Ibid., p. 1.

350 See www.oceanconservancy.org/images/2010ICCReportRelease_pressPhotos/2010_ICC_Report.pdf.

351 See www.unep.org/regionalseas/marinelitter/publications/docs/Economic_Instruments_and_Marine_Litter.pdf.

352 See www.unep.org/regionalseas/marinelitter/publications/docs/Marine_Litter_Survey_and_Monitoring_Guidelines.pdf.

353 UNEP contribution.

354 FAO Fisheries and Aquaculture Technical Paper No. 523; UNEP Regional Seas Reports and Studies No. 185; available at: www.fao.org/docrep/011/i0620e/i0620e00.htm.

355 UNEP contribution.

United States will co-organize the fifth International Marine Debris Conference in Honolulu, United States. The conference aims to highlight research advances, allow sharing of strategies and best practices to assess, reduce and prevent the impacts of marine debris, and provide an opportunity for the development of specific bilateral or multi-country strategies.[356]

242. A number of regional seas programmes took measures to address marine debris at the regional level.

## D. Pollution from ships

### 1. Discharge of substances

243. *MARPOL 73/78 Annex I (oil).* In March 2010, the IMO Marine Environment Protection Committee adopted amendments to Annex I to MARPOL 73/78 which add a new chapter 9 on special requirements for the use or carriage of oils in the Antarctic area. The amendments establish a ban on the use or carriage as cargo of heavy grade oils in the Antarctic Area, with an exception for vessels engaged in securing the safety of ships or in a search and rescue operation, and determine that cleaning or flushing of tanks or pipelines is not required when prior operations have included heavy grade oils. The amendments are expected to enter into force on 1 August 2011.[357]

244. *MARPOL 73/78 Annex III (harmful substances in packaged form).* The Marine Environment Protection Committee approved proposed amendments to replace the text of MARPOL 73/78 Annex III, with a view to adoption at its sixty-first session. The amended text is aimed at bringing the Annex up to date with the mandatory International Maritime Dangerous Goods Code, specifying that goods should be shipped in accordance with relevant provisions. It revises the criteria defining marine pollutants so as to bring them into line with the recently revised Globally Harmonized System criteria; and revises certain documentation provisions in order to align them with proposed amendments to the International Convention for the Safety of Life at Sea regulation VII/4.[358]

245. *MARPOL 73/78 Annex V (garbage).* The Marine Environment Protection Committee received the interim report of the Intersessional Correspondence Group on the review of Annex V to MARPOL 73/78. The Committee noted that the Group had made noticeable progress in relation to identifying existing regulations that do not need amendment; the definition of garbage types permitted for discharge; addressing cargo residues including hold wash water; garbage management plans and placards; and waste minimization. The final report, including proposed draft amendments to the Annex and its guidelines, will be submitted to the sixty-first session of the Committee.[359]

246. *Port reception facilities.* The IMO Marine Environment Protection Committee considered proposed amendments to MARPOL 73/78 Annexes I and II, intended to incorporate in MARPOL 73/78 the understanding that regional arrangements are an acceptable way to satisfy MARPOL 73/78 obligations to provide reception facilities.

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[356] See www.gpa.unep.org/news.html#95.

[357] Resolution MEPC.189(60).

[358] Report of the Marine Environment Protection Committee on its sixtieth session, IMO document MEPC 60/22.

[359] Ibid.

In this context, the Committee recalled that, at its fifty-fifth session, it had recognized the benefits of having regional agreements. However, it recognized that there were concerns that should be addressed before the proposed amendments could be approved, and encouraged interested delegations and observers to submit a joint document to it at its sixty-first session with draft amendments to MARPOL 73/78 Annexes I, II, IV, V and VI, institutionalizing regional arrangements and draft guidelines for establishing those arrangements. In addition, the Committee acknowledged that any regional arrangements were intended only for specific regions of the world, especially small island developing States, and that that understanding should be clearly stated in the draft amendments or guidelines.[360] At its eighteenth session, the Subcommittee on Flag State Implementation agreed that the action plan on tackling the inadequacy of port reception facilities had been satisfactorily completed and invited the Marine Environment Protection Committee to approve the proposed plan for the strengthening of port reception facilities, as outlined in the report of the Correspondence Group.[361]

247. *Preparedness and response to pollution incidents*. The IMO Marine Environment Protection Committee approved the text of an operational guide on aerial observation of oil pollution at sea. It also noted preliminary information provided by the secretariat in relation to an invitation by the IAEA secretariat for the IMO secretariat to collaborate in the preparation of guidance for coastal States on how to respond to a maritime emergency involving radioactive materials. A proposal for a new work programme item on this issue was submitted to the eighty-seventh session of the Maritime Safety Committee and referred to the sixty-first session of the Marine Environment Protection Committee.[362]

## 2. Air pollution from ships

248. Annex VI to MARPOL 73/78 on the prevention of air pollution from ships, adopted in 1997, provides for limits on the main air pollutants contained in ships exhaust gas, including sulphur oxides ($SO_x$) and nitrous oxides ($NO_x$), and prohibits deliberate emissions of ozone-depleting substances. It regulates shipboard incineration and the emissions of volatile organic compounds from tankers.[363]

249. Shortly after Annex VI entered into force in May 2005, the Marine Environment Protection Committee decided to undertake a general revision of Annex VI on the basis of new knowledge of the harmful impacts of diesel exhausts and in recognition of technological developments that would enable significant improvements over existing standards.[364] The revised Annex VI and the related $NO_x$ Technical Code were adopted by the Committee in October 2008 and entered into

[360] Ibid.

[361] Draft report to the Maritime Safety Committee and the Marine Environment Protection Committee, IMO document FSI 18/WP.7. The report of the Correspondence Group is contained in IMO document FSI 18/5.

[362] Report of the Marine Environment Protection Committee on its sixtieth session, IMO document MEPC 60/22.

[363] To date, Annex VI has been ratified by 59 countries, representing approximately 84.23 per cent of the gross tonnage of the world's merchant shipping fleet.

[364] IMO contribution. Also see A/64/66/Add.1, paras. 239-243.

force on 1 July 2010. The main changes to Annex VI will bring a progressive reduction in emissions of $SO_x$, $NO_x$ and particulate matter from ships.[365]

250. Annex VI also provides for emission control areas to be designated for $SO_x$ and particulate matter, or $NO_x$, or all three types of emissions. As of 1 July 2010, the limits applicable in sulphur emission control areas were reduced to 1.00 per cent (from the current 1.50 per cent), meaning that ships will have to burn fuel of lower sulphur content, or use an alternative method to reduce emissions, in these areas (see para. 302 below).[366]

## E. Introduction of invasive alien species

251. The introduction of invasive alien species into the marine environment through the ballast water of ships or attached to the hull of ships, or through other vectors, constitutes one of the greatest threats to the world's oceans.[367]

252. A number of actions have been taken by IMO to respond to this challenge, including the adoption of the International Convention for the Control and Management of Ships' Ballast Water and Sediments in 2004.[368] As of June 2010, 26 States have ratified the Ballast Water Management Convention, representing 24.44 per cent of the world's merchant shipping.[369] IMO has also joined forces with other United Nations entities to promote coherence in the regulatory framework relating to invasive alien species. The first meeting of the Inter-agency Liaison Group on Invasive Alien Species was held in June 2010, and it aimed to fill the existing regulatory gaps and contribute to capacity-building support needed by developing States, particularly small island developing States.[370] This issue has also recently been considered in the context of the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (the London Convention) and its 1996 Protocol (the London Protocol).[371]

253. *Ballast water management*. At its session held in March 2010, the Marine Environment Protection Committee continued to develop the necessary guidance for the effective implementation of the Ballast Water Management Convention and adopted a resolution inviting IMO member States to encourage, on a voluntary basis, the installation of ballast water management systems on new ships in accordance with the application dates contained in the Ballast Water Management Convention.[372] As of April 2010, 24 ballast water management systems making use of active substances had received basic approval from IMO, and 12 systems had received final approval.[373] In total, seven ballast water management systems have

[365] See A/64/66/Add.1, para. 240.

[366] The Baltic Sea (May 2005) and the North Sea, including the English Channel (November 2006).

[367] IMO contribution.

[368] Also see A/64/66/Add.1, paras. 244-250.

[369] See article 18 of the Ballast Water Management Convention for the provisions on entry into force. See IMO website at www.imo.org/home.asp.

[370] IMO contribution.

[371] See, for example, IMO document LC 31/8 on the interpretation of the London Convention and Protocol.

[372] See MEPC 60/22 and resolution MEPC.188(60) in annex 1.

[373] See list of ballast water management systems as of April 2010 at www.imo.org/includes/blastDataOnly.asp/data_id%3D28232/tableupdatedinApril2010.pdf.

received type approval certification, thereby increasing the number of commercially available and compliant treatment technologies.[374]

254. In January 2010, the first Global Expert Forum on Ballast Water Treatment Test Facility Harmonization and the first Global Research and Development Forum on Emerging Ballast Water Management Systems were held with support from the IMO Global Industry Alliance for Marine Biosecurity, which was established under the umbrella of the GloBallast Partnerships programme.[375]

255. The Subsidiary Body on Scientific, Technical and Technological Advice of the Convention on Biological Diversity adopted several recommendations on invasive alien species for consideration by the tenth meeting of the Conference of the Parties in October 2010.[376] Among others, it recommended that the Executive Secretary of the Convention be requested to work with relevant bodies to better understand the management of invasive alien species in marine and coastal environment.[377] It also recommended the adoption of a decision recognizing, inter alia, the critical importance of regional collaboration to address the threat of invasive alien species, particularly as a means to enhance ecosystem resilience in the face of climate change (see also para. 376 below).[378]

256. At the regional level, PERSGA reported that it had carried out capacity-building activities, which included a training workshop on ballast water management in Egypt in 2009, organized in partnership with IMO.[379] The European Bank for Reconstruction and Development, in partnership with the GloBallast Partnerships programme, initiated a series of training programmes aimed at helping Eastern European countries reduce the risk from harmful organisms and pathogens transferred in ballast water.[380]

257. In the Baltic Sea region, the Ministerial Meeting of the Baltic Marine Environment Protection Commission in May 2010 evaluated the first results of the implementation of its action plan, which included progress in implementing a road map towards a harmonized implementation and ratification of the Ballast Water Management Convention.[381]

258. *Biofouling and anti-fouling systems for ships*. Since the entry into force of the International Convention on the Control of Harmful Anti-fouling Systems on Ships in 2008, anti-fouling systems containing organotin compounds acting as biocides have been removed from the market and replaced with effective alternative anti-fouling systems by members of the International Paint and Printing Ink

[374] IMO contribution.

[375] See "World Maritime University to host 'ballast water week' in January 2010", IMO press release, 14 December 2009, at www.imo.org. Also see A/64/66/Add.1, para. 248.

[376] UNEP/CBD/COP/10/3.

[377] Recommendation XIV/4 in UNEP/CBD/COP/10/3.

[378] Recommendation XIV/13 in UNEP/CBD/COP/10/3. Reference was made in this context to a workshop held in New Zealand from 11 to 16 April 2010 (see UNEP/CBD/SBSTTA/14/INF/29).

[379] PERSGA contribution.

[380] See "Eastern European countries to get help in tackling alien invaders under innovative EBRD/IMO Marine Biosafety Inititative", IMO press release, 29 June 2010, at www.imo.org.

[381] Contribution of the Baltic Marine Environment Protection Commission. The Ministerial Declaration is available at www.helcom.fi. According to the action plan, countries are to ratify the Convention in 2010, and by 2013 at the latest. See also a study on ballast water management options for intra-Baltic shipping at http://meeting.helcom.fi/c/document_library/get_file?p_l_id=18816&folderId=668711&name=DLFE-39647.pdf.

Council, who produce over 90 per cent of the world's anti-fouling paints.[382] However, there are no international measures currently in place to address the introduction of invasive alien species through biofouling of ships.

259. At its session in March 2010, the Marine Environment Protection Committee established a correspondence group to facilitate future work by the IMO Bulk Liquids and Gases Subcommittee on the development of international measures for minimizing the transfer of invasive aquatic species through biofouling of ships. The group has undertaken a review of research on the potential for harmful effects of biofouling of ships on the marine environment, human health, property and resources and has commenced development of draft interim practical guidance for minimizing such effects, with a view to the eventual adoption of specific guidelines by the Marine Environment Protection Committee.[383]

## F. Ocean noise

260. Work to understand the impacts of ocean noise on marine species continues in various forums, as well as efforts at sharing information and developing cooperative ways to address the issue.

261. The Division has continued to make available on its website the lists of peer-reviewed scientific studies on the impacts of ocean noise on marine living resources that it receives from Member States.[384] The General Assembly, by resolution 64/71, decided that such studies could also be submitted by intergovernmental organizations. A list of peer-reviewed scientific studies was received from the Permanent Secretariat of the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area.[385]

262. At its session in March 2010, the IMO Marine Environment Protection Committee considered the report of the correspondence group on noise from commercial shipping and its adverse impact on marine life. The work of the group focused on technological issues related to cavitation, machinery and hulls and dominant frequency. The Committee agreed that the group should concentrate its efforts on the major element of cavitation. With regard to the issue of a regulatory framework, the Committee noted that other entities were working on regional legislation for various types of noise. The Committee re-established the group to continue its work.[386]

263. At the regional level, in its final report, the Intersessional Working Group on the Assessment of Acoustic Disturbance[387] of the Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas addresses three main human activities: use of sonar, seismic surveys and pile-driving. For each of these activities, the Working Group examines noise management (e.g. impact mitigation); summarizes the assessments that have been made; indicates the main concerns relevant to the objectives of the Agreement; and identifies guidelines or recommendations for best practice. Efforts towards a common approach for the

[382] MEPC 60/22.
[383] IMO contribution.
[384] General Assembly resolutions 61/222, 62/215 and 63/111.
[385] Available from www.un.org/depts/los/general_assembly/noise/noise.htm.
[386] IMO document MEPC 60/22, paras. 18.1 to 18.12.
[387] AC17/Doc.4-08.

development of voluntary guidelines on mitigation of noise-generating activities in the marine environment by the Convention on Migratory Species of Wild Animals, the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area, the Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas and the Commission for the Protection of the Marine Environment of the North-East Atlantic are ongoing.[388]

264. A document published by the secretariat of the latter Commission presents an overview of the impacts of anthropogenic underwater sound in the marine environment.[389]

## G. Waste management

265. Finding proper solutions in the field of waste management is of great importance in addressing ocean pollution. At its eighteenth session, Commission on Sustainable Development considered ocean issues, in particular waste management and transport. The need for developing countries to receive assistance to establish better waste management systems and thus protect seas and oceans was raised.[390]

266. The Guiding Principles for Sustainable Spatial Development of the European Continent set out measures in respect of the prevention or mitigation of various kinds of environmental harms and the development of innovative systems in the field of waste management.[391]

### 1. Disposal of wastes

267. The thirty-first Consultative Meeting of Contracting Parties to the London Convention and the fourth meeting of Contracting Parties to the London Protocol[392] were held in October 2009. The fourth meeting of Contracting Parties to the London Protocol adopted resolution LP.3(4) to amend article 6 of the Protocol. The amendment, which is not yet in force, concerns the sequestration of carbon dioxide streams in sub-seabed geological formations.

268. With respect to the compliance procedures and mechanisms established under the London Protocol, the meetings reviewed the implementation of the 2004 strategy to improve reporting and urged all Contracting Parties, if they had not done so, to provide, before 31 December 2009, the reports, or corrections to the reports, on their dumping activities in 2006, including "nil" reports (indicating that no dumping activities had been carried out in that year). The Scientific Groups were instructed to review the recommendations which the London Protocol Compliance Group had made in relation to the low overall response rate of reporting of dumping activities and to report their findings to the governing bodies in 2010.[393]

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[388] Contribution of the Convention on Migratory Species of Wild Animals.

[389] Commission for the Protection of the Marine Environment of the North-East Atlantic, publication No. 441/2009.

[390] Contribution of the Department of Economic and Social Affairs of the Secretariat.

[391] Contribution of the Council of Europe.

[392] As at October 2009 there were 86 Contracting Parties to the London Convention and 37 Contracting Parties to the London Protocol. Recently Ghana became the thirty-eighth Contracting Party to the Protocol. See IMO document LC 31/15 and www.imo.org/Environment/mainframe.asp?topic_id=1488.

[393] LC 31/15.

269. The meetings also endorsed several recommendations to monitor closely the planning, management, delivery and follow-up of various technical cooperation and assistance activities under the "Barriers to compliance" project.[394] In addition, the Monitoring and Assessment Project in relation to sea disposal activities was launched in October 2009, aiming to assess the experiences of parties with implementation of the generic guidelines in relation to field monitoring activities.[395]

## 2. Transboundary movement of wastes

270. As mandated by decision IX/3 adopted at the ninth meeting of the Conference of the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, the secretariat of the Basel Convention prepared a first draft of a new strategic framework and published it on the Basel Convention website.[396] During the seventh session of the Open-ended Working Group of the Basel Convention, held in May 2010, the parties agreed in principle to the vision, guiding principles and strategic goals and objectives set out in the draft strategic framework for 2012-2021. The agreed strategic goals include effective implementation of parties' obligations on transboundary movements of hazardous wastes and other wastes; strengthening of the environmentally sound management of hazardous and other wastes; and promotion of environmentally sound management as an essential contribution to the achievement of sustainable livelihood, the Millennium Development Goals and the protection of human health and the environment.[397]

271. The UNEP Post-Conflict and Disaster Management Branch, the secretariat of the Basel Convention and IMO are working closely on the implementation of a capacity-building programme to enhance the capacity of Côte d'Ivoire to manage hazardous wastes in the district of Abidjan and to monitor and control transboundary movements of hazardous chemicals and wastes in that country and in other French-speaking countries in Africa.[398] Cooperation between the Basel Convention and IMO is also continuing on the implementation of the second phase of the Probo Koala[399] capacity-building activities in Africa, seeking to replicate the pilot project being implemented in Côte d'Ivoire in other African countries with port facilities.[400]

272. With respect to inter-agency cooperation between the Basel Convention and IMO, at its seventh session the Open-ended Working Group of the Basel Convention requested the secretariat of the Basel Convention to provide, within available resources, a legal analysis of the application of the Basel Convention to hazardous wastes and other wastes generated on board ships and to publish the analysis on the

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[394] See A/64/64/Add.1, para. 258.

[395] LC 31/15.

[396] A/64/64/Add.1 and A/63/63/Add.1.

[397] Contribution of the secretariat of the Basel Convention. See also UNEP/CHW/OEWG/7/21, OEWG-VII/1.

[398] A/62/66, para. 293 and A/60/63, para. 258.

[399] The "Probo Koala", a vessel tanker, was chartered by "Trafigura", an independent commodity trader Group. Toxic waste brought by the ship was dumped around the city of Abidjan resulting in loss of life and serious health and environmental damage.

[400] Contribution of the secretariat of the Basel Convention. The evaluation report is available at www.unep.org/conflictsanddisasters/LinkClick.aspx?fileticket=WEZ_BLQ3TUg%3d&tabid=289&language=en-US.

website of the Basel Convention by 31 March 2010 for comments by parties by 30 June 2011.[401]

## H. Ship breaking, dismantling, recycling and scrapping

273. The International Convention for the Safe and Environmentally Sound Recycling of Ships (the Hong Kong Convention), adopted in May 2009, was open for signature from 1 September 2009 to 31 August 2010. At its session in March 2010, the IMO Marine Environment Protection Committee noted that so far only France had signed the Convention subject to ratification, and encouraged more signatures.[402] The Marine Environment Protection Committee continued its work on developing guidelines for safe and environmentally sound ship recycling. It commenced its work on guidelines for the development of the Ship Recycling Plan. The Committee will also develop guidelines for the authorization of ship recycling facilities, for ship inspection and for survey and certification. The Committee agreed that there would be a need to develop guidance concerning the recycling of flag-less and non-party ships by parties to the Hong Kong Convention. In addition, the Committee agreed to develop a timetable for the development of the guidelines. A number of technical cooperation activities and workshops on ship recycling and on the early implementation of the standards of the Hong Kong Convention have been held at the regional and national levels.[403]

274. Pursuant to decision IX/30 adopted at the ninth meeting of the Conference of the Parties to the Basel Convention in June 2008,[404] the Open-ended Working Group at its seventh session developed the criteria necessary to carry out a preliminary assessment in four categories: the scope and applicability of the two Conventions; the control and enforcement mechanisms of the two Conventions; and exchange of information, cooperation and coordination under the two Conventions.[405] The importance of inter-agency cooperation between ILO, IMO and the secretariat of the Basel Convention was also underlined.[406]

275. IAEA, in cooperation with IMO, is also working on the development of guidelines on recycling of ships. Specific devices widely used on ships contain radioactive substances that need to be removed and handled carefully in order to prevent contamination of recycled materials or of the environment. IAEA adopted, in its safety standards, exemption criteria and exemption procedures in order to identify levels of radioactive substances that could be considered as thresholds below which the substances could be automatically exempted from any radiological control without further consideration. IAEA had advised IMO on the application of safety standards for handling radioactive waste, should those exemption levels be exceeded.[407]

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[401] Contribution of the secretariat of the Basel Convention. See also A/64/64/Add.1, para. 264.

[402] Status as at 26 March 2010.

[403] MEPC/60/22, paras. 3.1-3.14. See also A/64/66/Add.1, paras. 265-270.

[404] A/63/63/Add.1, para. 207.

[405] Contribution of the secretariat of the Basel Convention. See also decision OEWG-VII/12, as attached to UNEP/CHW/OEWG/7/21.

[406] UNEP/CHW/OEWG/7/21, para. 96. See also A/64/64/Add.1, para. 270.

[407] IAEA contribution.

# I. Liability and compensation

276. The current international legal regime for liability and compensation for damage from pollution from ships and from the carriage of hazardous and noxious substances, hazardous wastes and nuclear material by sea is based on a number of international instruments (see A/63/63/Add.1, para. 209).

277. In respect of pollution of the marine environment resulting from sources other than shipping activities, the General Assembly, in paragraph 4 of its resolution 64/195 on the oil slick on Lebanese shores, reiterated its request to the Government of Israel to assume responsibility for prompt and adequate compensation to the Government of Lebanon and other countries directly affected by the oil slick for the costs of repairing the environmental damage caused by the destruction of the oil storage tanks at El-Jiyeh electric power plant, including the restoration of the marine environment.

278. *International Convention on Civil Liability for Bunker Oil Pollution Damage.* At its ninety-sixth session, in October 2009, the IMO Legal Committee approved a draft Assembly resolution on bunker certificates of insurance to bareboat-registered vessels. The draft resolution aims at clarifying differing interpretations on the issuance of bunker certificates by States to ships registered in a bareboat registry. This is intended to assist shipowners, managers and operators in avoiding unnecessary delays, detentions of ships and administrative burdens.[408] The draft resolution will be submitted to the IMO Assembly at its twenty-sixth session, in November 2010, for adoption.

279. *International Oil Pollution Compensation Funds.* In October 2009, the governing bodies of the 1992 Fund and the Supplementary Fund instructed the Director of the Funds to undertake further work on the possibility of a change in the interpretation of the definition of "ship", in particular in connection with the question as to whether pollution damage caused by floating storage units should be covered under the 1992 Fund Convention (see A/63/63/Add.1, para. 211 and A/64/66/Add.1, para. 276), for consideration at the next regular session of the governing bodies.[409] The Council decided to establish a sixth intersessional working group to consider procedures for the assessment of large numbers of claims for relatively small amounts, in particular where claimants could not prove their losses, and the question of the funding of interim payments to claimants.[410] The report of the working group, which held its first meeting in June 2010, will be considered by the Assembly at its next regular session.

280. The Executive Committee of the 1992 Fund continued to consider matters related to the *Al Jaziah 1* (United Arab Emirates, 2000), *Erika* (France, 1999), *Prestige* (Spain, 2003), *N°7 Kwang Min* (Republic of Korea, 2005), *Solar 1* (Philippines, 2006), *Shosei Maru* (Japan, 2006), *Volgoneft 139* (Strait of Kerch, 2007), *Heibei Spirit* (Republic of Korea, 2007) incidents and the incident in Argentina (2007). The Committee also considered information on discharge operations by the *King Darwin* in the port of Dalhousie, Canada, in 2008.

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[408] Report of the Legal Committee on the work of its ninety-sixth session, IMO document LEG 96/13.

[409] Record of decisions of the October 2009 sessions of the International Oil Pollution Compensation Funds' Governing Bodies, document IOPC/OCT09/11/1.

[410] Ibid.

281. With regard to the *Erika* incident, the Committee noted that in March 2010 the Criminal Court of Appeal in Paris had confirmed the judgement of the Criminal Court of First Instance which had held the representative of the shipowner, the president of the management company, the classification society and the oil company criminally liable for the pollution.[411]

282. In respect of the *Prestige* incident, the Committee noted that the Court of Appeal in La Coruña had overturned the Criminal Court's decision and decided to reinstate the proceedings against the civil servant who had been involved in the decision not to allow the ship into a place of refuge in Spain.[412]

283. With regard to the *Volgoneft 139* incident, the Fund's experts confirmed that the vessel should not have been in the area at the time of the incident since the conditions associated with the storm were in excess of the vessel's design criteria.[413] The Committee decided that the Fund should not, for the time being, make any payments in respect of this incident until the uncertainties, including in relation to the insurance gap in this case, had been resolved.[414]

284. In the context of its consideration of the *Heibei Spirit* incident, the Committee decided to instruct the Director of the Fund to develop, in conjunction with the Club and Fund's experts and taking into account input from member States, guidelines addressing the principles of reasonable fishery restrictions, possibly in the form of amendments to the Claims Manual.[415] It also endorsed the use, on a trial basis, of a methodology developed by the secretariat to assess small-scale non-fishery claims submitted with little or no supporting information where the Fund believed there was a loss.[416]

285. In relation to the incident in Argentina, an investigation into the cause of the incident by the Criminal Court of Comodoro Rivadavia reached a preliminary decision that the spill originated from the *Presidente Arturo Umberto Illia*. The shipowner appealed the decision denying his liability for the spill.[417]

286. The Council of the 1971 Fund considered developments in the *Vistabella*, *Aegean Sea*, *Iliad*, *Kriti Sea*, *Nissos Amorgos*, *Plate Princess*, *Evoikos*, *Alambra* and *Al Jaziah 1* incidents. The Council noted that the *Evoikos* case could be closed once the pending litigation in London had been finalized, and that the *Al Jaziah 1* case could be closed once it had been decided to discontinue the execution of the judgement because the costs would exceed the recoverable amount.[418]

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411 For details, see record of decisions of the June 2010 meetings of the International Oil Pollution Compensation Funds, document IOPC/JUN10/6/1.

412 Record of decisions of the October 2009 sessions of the International Oil Pollution Compensation Funds' Governing Bodies, document IOPC/OCT09/11/1.

413 Record of decisions of the June 2010 meetings of the International Oil Pollution Compensation Funds, document IOPC/JUN10/6/1.

414 Ibid.

415 Ibid.

416 Record of decisions of the October 2009 sessions of the International Oil Pollution Compensation Funds' Governing Bodies, document IOPC/OCT09/11/1.

417 Record of decisions of the June 2010 meetings of the International Oil Pollution Compensation Funds, document IOPC/JUN10/6/1.

418 Record of decisions of the October 2009 sessions of the International Oil Pollution Compensation Funds' Governing Bodies, document IOPC/OCT09/11/1.

287. *Hazardous and Noxious Substances Convention.* The International Conference on the Revision of the Hazardous and Noxious Substances Convention, held in April 2010, adopted the Protocol to the 1996 International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea. The Protocol, which is not yet in force, addresses practical problems which have prevented many States from ratifying the 1996 Convention. Under the Protocol, if damage is caused by bulk hazardous and noxious substances, compensation would first be sought from the shipowner, up to a maximum limit of 100 million Special Drawing Rights. Where damage is caused by packaged hazardous and noxious substances, or by both bulk and packaged substances, the maximum liability for the shipowner is 115 million Special Drawing Rights. Once this limit is reached, compensation will be paid from the second tier, the Hazardous and Noxious Substances Fund, up to a maximum of 250 million Special Drawing Rights.[419] The Conference also adopted four resolutions on the establishment of the Hazardous and Noxious Substances Fund, the promotion of technical cooperation and assistance, avoidance of a situation in which two conflicting treaty regimes are operational, and implementation of the 2010 Protocol. The 1996 Convention, as amended by the Protocol, is now entitled the International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 2010.[420]

288. *Liability for nuclear damage.* IAEA, jointly with the International Expert Group on Nuclear Liability, periodically conducts workshops on civil liability for nuclear damage, which include a session dedicated to the question of transport of nuclear material, including by sea.[421] The IAEA General Assembly in September 2009 stressed the importance of having effective liability mechanisms in place to insure against harm to human health and the environment as well as actual economic loss due to a radiological accident or incident during the maritime transport of radioactive material, noted the application of the principles of nuclear liability, including strict liability, in the event of a nuclear accident or incident during the transport of radioactive material, and welcomed the work of the International Expert Group on Nuclear Liability, including the examination of the application and scope of the international nuclear liability regime and the consideration and identification of further specific actions to address any gaps in scope and coverage of the regime.[422]

289. *UNEP Guidelines on liability, response action and compensation.* At its special session in February 2010, the UNEP Governing Council adopted voluntary Guidelines for the development of domestic legislation on liability, response action and compensation for damage caused by activities dangerous to the environment,

[419] IMO contribution.

[420] Protocol of 2010 to the International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 1996, IMO document LEG/CONF.17/10; Final Act of the International Conference on the Revision of the HNS Convention, IMO document LEG/CONF.17/12; and Conference Resolutions, IMO document LEG/CONF.17/11.

[421] IAEA contribution.

[422] Measures to strengthen international cooperation in nuclear, radiation, transport and waste safety, IAEA document GC(53)/RES/10.

which aim at providing guidance to States, taking into account the "polluter pays" principle.[423]

## J. Area-based management tools

290. *Marine protected areas*. While the extent of marine protected areas has grown significantly, a small proportion (less than a fifth) of marine ecoregions meet the target of having at least 10 per cent of their area protected. Marine protected areas cover less than 1 per cent of the total ocean area.[424]

291. With respect to areas beyond national jurisdiction, the Ad Hoc Open-ended Informal Working Group established by the General Assembly in its recommendations addressed, inter alia, the issue of area-based management tools, in particular marine protected areas.[425]

292. In order to promote a better understanding of the underlying principles and scientific basis behind marine protected area network design and to disseminate experiences and lessons learned from various initiatives under way at regional, national and sub-national levels, UNEP published the report "National and Regional Networks of Marine Protected Areas: A Review of Progress".[426]

293. At the regional level, in the framework of the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and its Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean, the sixteenth ordinary Meeting of Contracting Parties, held in November 2009, decided to include the following sites in the list of specially protected areas of Mediterranean importance: the Natural Reserve of Bouches de Bonifacio (France), the Marine Protected Area Capo Caccia-isola Piana (Italy), the Marine Protected Area Punta Campanella (Italy) and the al-Hocelma National Park (Morocco).[427]

294. The Commission for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Commission), in the context of its work towards the establishment of a marine protected area in the Charlie Gibbs Fracture Zone on the Mid-Atlantic Ridge, recognized that the process of establishment of such an area posed a number of questions in relation to the submissions to the Commission on the Limits of the Continental Shelf by coastal States in the region, namely Iceland and Portugal.[428] The Commission concluded that the establishment of the marine protected area would be without prejudice to the outcome of the process before the Commission on the Limits of the Continental Shelf and would be subject to review, if appropriate, once the outer limits of the extended continental shelf was established in accordance with article 76 and Annex II of the United Nations

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[423] Guidelines for the development of domestic legislation on liability, response action and compensation for damage caused by activities dangerous to the environment, annex to decision SS.XI/5 B, UNEP document UNEP/GCSS.XI/11.

[424] See the statement on the "Scientific rationale for the designation of very large marine reserves" calling for the establishment of a worldwide system of very large, highly protected marine reserves, www.globaloceanlegacy.org/GOLScienceStatement.pdf.

[425] A/65/68, sect. I, paras. 17 and 18. See also sect. II.

[426] UNEP contribution. See also www.unep-wcmc.org/oneocean/pdf/MPA%20report%20FINAL.pdf.

[427] UNEP(DEPI)/MED IG.19/8, paras. 58 and 59, decision IG.19/14.

[428] See www.un.org/Depts/los/clcs_new/commission_submissions.htm.

Convention on the Law of the Sea.[429] Additional proposals for marine protected areas in areas beyond national jurisdiction are also being considered by the OSPAR Commission. As in the case of the Charlie Gibbs Fracture Zone marine protected area, some of these areas are included in submissions to the Commission on the Limits of the Continental Shelf. The OSPAR Commission concluded that only one of the other areas, the Milne Seamount complex, lay completely outside any area covered by a submission to the Commission on the Limits of the Continental Shelf[430] and approved, in principle, the Milne Seamount complex as a potential marine protected area. It also agreed that the five other areas (Reykjanes Ridge, Southern Mid-Atlantic Ridge (North of the Azores), Altair Seamount, Antialtair Seamount and Josephine Seamount) should be approved, in principle, as potential components of the OSPAR Commission network of marine protected areas. The Ministerial Meeting of the OSPAR Commission, held in September 2010, was expected to discuss, inter alia, actions and measures for the protection of marine biodiversity, including taking forward a coherent and well-managed network of marine protected areas, which might include areas beyond national jurisdiction.[431]

295. Portuguese authorities announced the establishment of four marine protected areas on the extended continental shelf of the Azores and mainland Portugal, on the southern Mid-Atlantic Ridge, Altair Seamount, Antialtair Seamount and Josephine Bank.[432]

296. In the Baltic Sea, the 10 per cent target set by the Convention on Biological Diversity for regional marine protected area networks has been achieved. The report of the Baltic Marine Environment Protection Commission entitled "Towards Ecologically Coherent Network of Well-managed Marine Protected Areas" shows that the network is still not ecologically coherent, with offshore areas lacking protection measures, and that the management of the protected areas is still insufficient.[433]

297. At its 28th annual meeting, in October-November 2009, the Commission for the Conservation of Antarctic Marine Living Resources endorsed the Scientific Committee recommendations on a proposal for a protected area in the South Orkney Islands (document SC-CAMLR-XXVIII, para. 3.19). Accordingly, it adopted Conservation Measure 91-03 (2009) on the Protection of the South Orkney Islands Southern shelf. The Commission recognized that areas to be designated as protected in the Convention Area should be linked to a management plan specific to the area concerned.[434]

298. *Ecologically or biologically significant marine areas in need of protection.* The expert workshop on scientific and technical guidance on the use of biogeographic classification systems and identification of marine areas beyond

[429] Summary record of the meeting of the OSPAR Commission, Brussels, 22-26 June 2009 (OSPAR 09/22/1-E, 2009). See also report of the meeting of the Ad Hoc Working Group on the Charlie Gibbs Fracture Zone, London, 15 February 2010 (WG-Charlie 10/6/1-E, 15 February 2010).

[430] See summary record of the meeting of the OSPAR Commission, Brussels, 22-26 June 2009 (OSPAR 09/22/1-E, 2009).

[431] See www.ospar.com.

[432] World Wildlife Fund, "Portugal shows the way on high seas protected areas", 24 March 2010, found at wwf.panda.org/?uNewsID=191604.

[433] See www.helcom.fi/stc/files/Moscow2010/BSPA_Summary.pdf.

[434] Report of the twenty-eighth meeting of the Commission (CCAMLR-XXVIII), available at www.ccamlr.org/pu/E/e_pubs/cr/09/all.pdf.

national jurisdiction in need of protection, held in Ottawa in September-October 2009, reviewed progress made in the identification of areas beyond national jurisdiction that meet the criteria of the Convention on Biological Diversity (annex I to decision IX/20), as well as national and regional experiences in applying similar criteria. The workshop also developed scientific guidance on the identification of marine areas beyond national jurisdiction which meet the above criteria. Guidance was provided for the further development of biogeographic classification systems, with specific considerations relating to the use of the Global Open Oceans and Deep Seabed Biogeographic Classification.[435]

299. In the context of the Global Ocean Biodiversity Initiative,[436] the UNEP World Conservation Monitoring Centre is developing an Internet-based, interactive mapping tool that features relevant scientific information and data layers as well as illustrations of each of the Convention on Biological Diversity criteria. The Monitoring Centre is also developing a regional approach to applying ecologically or biologically significant areas, starting with the Pacific.

300. *Special areas and particularly sensitive sea areas*. The IMO Marine Environment Protection Committee, at its session in March 2010, established 1 May 2011 as the date on which the discharge requirements for the Wider Caribbean Region Special Area under MARPOL 73/78 Annex V (garbage) will take effect. This area, which includes the Gulf of Mexico and the Caribbean Sea, was designated as a Special Area under MARPOL Annex V in July 1991. Most countries in the region have now given notice that adequate reception facilities are provided in most relevant ports, so that the Special Area status can now be made effective.[437]

301. The IMO Maritime Safety Committee adopted, by resolution MSC.301(87), amendments to the existing mandatory ship reporting system in the Western European particularly sensitive sea area. These amendments will come into effect on 1 December 2010.[438] In relation to further amendments and implementation of new and amended traffic separation schemes and other routeing measures near or in the Baltic Sea and the Western European Waters particularly sensitive sea areas, the Marine Environment Protection Committee noted the amendments approved by the IMO Sub-committee on Safety of Navigation.[439] It also noted the action taken by the Sub-committee on reporting systems and other routeing measures concerning particularly sensitive sea areas, and agreed to defer a decision on this matter until its next session in September-October 2010.[440]

302. *Emissions control areas*. The Baltic Sea and the North Sea, including the English Channel, have been designated as emissions control areas by the IMO Marine Environment Protection Committee for the control of $SO_x$ and particulate matter. At its session in March 2010, the Marine Environment Protection Committee adopted amendments to the revised MARPOL 73/78 Annex VI to formally establish a North American emissions control area, in which emissions of sulphur oxides ($SO_x$), nitrogen oxides ($NO_x$) and particulate matter from ships will be subject to

[435] The report of the workshop is contained in document UNEP/CBD/EW-BCS&IMA/1/2 (available at www.cbd.int/doc/?meeting=EWBCSIMA-01).

[436] For more information see www.gobi.org/. See also A/65/69, para. 117.

[437] IMO document 60/22, paras. 8.2 to 8.11.

[438] IMO document 87/26, para. 9.6.

[439] IMO document NAV 55/21, annexes 1 and 2.

[440] IMO document 60/22, paras. 8.14 to 8.15.

more stringent controls than the limits that apply globally. The amendments will enter into force on 1 August 2011.[441]

303. *World heritage sites*. At its 34th session, in August 2010, the World Heritage Committee added the following coastal and marine sites to the UNESCO World Heritage List: Bikini Atoll (Marshall Islands); Phoenix Island Protected Area (Kiribati); and Papahānaumokuākea (United States of America). The Committee also decided to remove the Galapagos Islands (Ecuador) from the List of World Heritage in Danger owing to significant progress in addressing the threats posed by invasive species, uncontrolled tourism and over-fishing.[442]

304. A workshop held on the Isle of Vilm, Germany, from 30 June to 4 July 2010, and jointly organized by the UNESCO World Heritage Centre and other partners, synthesized information on marine biogeographic and habitat classification systems. To provide better guidance to States parties to the World Heritage Convention for the nomination of new marine World Heritage sites, a reference guide for marine World Heritage will be presented to the thirty-fifth session of the World Heritage Committee in 2011.[443]

305. *Biosphere reserves*. At its twenty-second session, held from 31 May to 4 June 2010, the International Coordination Council of the Man and the Biosphere programme added Maria's Island (Mexico) to the World Network of Biosphere Reserves. The Council also approved the extension of the Archipelago Sea Area Biosphere Reserve (Finland) established in 1994 in connection with the Archipelago National Park.

306. The Council considered a proposal from the Man and the Biosphere programme secretariat to explore modalities for, and the contents of, a Man and the Biosphere ocean agenda, including ocean biosphere reserves.[444] In that context, it was agreed that any ocean initiative going beyond collaboration with IOC, such as that related to the work under United Nations Convention on the Law of the Sea, would require prior intergovernmental consultation with member States.[445]

307. *Marine spatial planning*. The latest elaboration of the concept of marine spatial planning, including a definition, was provided by the Interagency Ocean Policy Task Force of the United States.[446]

308. Maritime spatial planning is also considered an important part of the work of the Baltic Marine Environment Protection Commission and agreement has been reached on broad-scale transboundary maritime spatial planning principles to be

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[441] Resolution MEPC.190(60). See also IMO document MEPC 60/22. The emissions control area comprises the 200 nautical mile sea areas off the Pacific coasts of the United States and Canada, the Atlantic coasts of the United States (including the United States part of the Gulf of Mexico), Canada, the French territories and the coasts of the populated Hawaiian Islands.

[442] UNESCO press release, "World Heritage Committee inscribes a total of 21 new sites on UNESCO World Heritage List", 2 August 2010.

[443] UNESCO World Heritage Centre, "Joint Workshop establishes successful basis to scale-up marine World Heritage", 6 July 2010.

[444] See "The MAB Programme and the Oceans: Defining and developing an agenda including that of Ocean Biosphere Reserves", UNESCO document SC-10/CONF.201/INF.5.

[445] Final report, International Coordinating Council of the Man and the Biosphere Programme, twenty-second session, UNESCO document SC-10/CONF.201/21.

[446] See final recommendations of the Interagency Ocean Policy Task Force, p. 41, available at www.whitehouse.gov/files/documents/OPTF_FinalRecs.pdf/.

finalized and adopted by the joint working group on marine spatial planning of the Commission and Vision and Strategies around the Baltic Sea 2010.[447,448]

## K. Sustainable use of non-living resources and development of marine renewable energy

### 1. Non-living resources[449]

309. Against the background of the oil spill incident in the Gulf of Mexico (see para. 219 above), the international community has attached great importance to the environmental impacts of offshore drilling. This issue was also noted by delegations at the eleventh meeting of the Informal Consultative Process.[450]

310. At its twenty-sixth session, in December 2009, the IMO Assembly adopted the Code for the Construction and Equipment of Mobile Offshore Drilling Units, 2009. The 2009 Code supersedes the 1989 Code for those mobile offshore drilling units, the keels of which are laid or which are at a similar stage of construction on or after 1 January 2012.[451] The Assembly invited Governments to take appropriate action to give effect to the 2009 Code.

311. The issue of discharge from offshore platforms was included in the Ministerial Declaration adopted by the Baltic Marine Environment Protection Commission in May 2010. The Declaration contains a decision to update the Commission's Baltic Sea Action Plan for the protection of the environment from offshore platforms, and to put into practice the "zero-discharge" principle in respect of all chemicals and substances used and produced during the operation of offshore platforms by 2013. It also welcomes the enforcement, as of 1 January 2010, of the "zero-discharge" principle for discharges of "black" and "red" chemicals, oil-containing water and solid wastes from offshore platforms in the Baltic Sea.[452]

### 2. Marine renewable energy

312. Governments continue to be major investors in marine energy research and development but major electrical utilities and international energy companies are beginning to invest more in marine energy.[453]

313. The issue of marine renewable energy is considered by the Intergovernmental Panel on Climate Change in its special report on renewable energy sources and climate change mitigation, which is due for publication in 2011.[454] The third

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447 See www.vasab.org/.

448 Contribution of the Baltic Marine Environment Protection Commission.

449 See also IV.A of the present report.

450 Paragraphs 12 and 13 of the advance and unedited reporting material of the eleventh meeting of the Informal Consultative Process, available at www.un.org/Depts/los/consultative_process/documents/icp11_consolidated_final_report.pdf.

451 IMO resolution A.26/1023.

452 See www.helcom.fi/stc/files/Moscow2010/HELCOM%20Moscow%20Ministerial%20Declaration%20FINAL.pdf.

453 See the IEA Implementing Agreement on Ocean Energy Systems 2009 annual report for countries' activities. The report is available at www.iea-oceans.org/publications.asp?id=1.

454 See www.ipcc-wg3.de/publications/special-reports/special-report-renewable-energy-sources/special-report-renewable-energy-sources.

International Conference on Ocean Energy was held in Bilbao, Spain, in October 2010.[455]

314. Work on the development of the annexes to the International Energy Agency (IEA) Implementing Agreement on Ocean Energy Systems continued, with the adoption of a new annex IV on assessment of environmental effects and monitoring efforts for ocean wave, tidal and current energy systems in 2009. The annex recognizes the importance of the management of environmental effects of marine energy converters. The work programme will lead to a global database of environmental effects and mitigation strategies, case studies and a comprehensive report.

315. The Equimar project, funded by the European Commission as part of its seventh Framework Programme for Research and Technological Development, is a collaborative research and development project involving 23 European partners, aiming to deliver a suite of protocols for the equitable evaluation of marine energy converters, based on either tidal or wave energy, to harmonize testing and evaluation procedures.[456] The forty-first Pacific Islands Forum, held in August 2010, endorsed the Framework for Action on Energy Security in the Pacific, reaffirming its commitment to renewable energy and an energy-efficient future based on achievable and practical and voluntary targets. It also noted the available funding windows on renewable energy for small island developing States and their limited capacity to develop renewable energy proposals and manage large funded projects.[457]

## L. Regional cooperation

316. The vision of the UNEP Marine and Coastal Strategy,[458] which was launched in 2009, is for prosperous and healthy oceans and coasts where conservation, productivity and resources use are sustainable. The Strategy focuses on the fragility of marine and coastal ecosystems while acknowledging the continued stress faced by ecosystems in providing services for humanity. It has four main elements: land-ocean connections; ecosystems for well-being; reconciling use and conservation; and vulnerable people and places.[459] The implementation of the Strategy relies on the strengths of the Regional Seas Conventions and Action Plans to effectively address the growing degradation of the marine and coastal environment and the priorities set by their member States.[460]

317. The eleventh Global Meeting of Regional Seas Conventions and Action Plans, in October 2009, focused on partnerships between the regional seas and United Nations agencies, multilateral environmental agreements and civil society; biodiversity within ecosystem-based management and the Regional Seas Programme; and strengthening regional seas alliance.[461]

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[455] See www.icoe2010bilbao.com/ing/index.aspx.

[456] See /www.equimar.org/.

[457] See /www.forumsec.org.fj/pages.cfm/newsroom/press-statements/2010/communique-of-41st-pacific-islands-forum.html.

[458] UNEP (DEPI)/RS.11 /4, p. 4.

[459] UNEP contribution.

[460] UNEP (DEPI)/RS.11 /4, p. 4.

[461] UNEP Northwest Pacific Action Plan quarterly newsletter, fourth quarter 2009; available at www.nowpap.org/news/quarterly/09-4.pdf.

### 1. Antarctic

318. Prior to the thirty-third Antarctic Treaty Consultative Meeting, held in Uruguay in May 2010, meetings of experts were held in New Zealand in December 2009[462] and in Norway in April 2010. The New Zealand meeting of experts provided recommendations relating to the management of ship-borne tourism for consideration by the Consultative Meeting. The Norway meeting of experts discussed key scientific aspects of climate change and their implications for the management of Antarctic activities in terms of monitoring, scenario planning and risk assessment. It also considered the outcomes of the Copenhagen climate change negotiations relevant for the Antarctic.[463]

319. The thirty-third Antarctic Treaty Consultative Meeting made progress on climate change and marine protected areas with the endorsement of 30 recommendations from the Norway meeting of experts, as well as a report on "Antarctic climate change and the environment" prepared by the Scientific Committee on Antarctic Research. Climate change will continue to be a major work item at the Antarctic Treaty meeting in 2011.[464] Delegations endorsed the development of a comprehensive and representative network of marine protected areas in the Southern Ocean, including the Ross Sea, by 2012. The importance of protecting the Ross Sea region was particularly highlighted in view of its biodiversity and its function as a climate change reference area and ecological refuge for many Southern Ocean species.[465]

### 2. The Arctic

320. A number of activities related to the Arctic have taken place,[466] including major publications by the Arctic Council Working Groups.[467] For example, the Working Group on the Protection of the Arctic Marine Environment adopted its 2009-2011 workplan, which includes a multi-phased project to review the global and regional measures in place for the protection of the Arctic marine and coastal environment. The final report will be presented to the Arctic Council of Ministers in 2013.[468]

321. The Arctic Biodiversity Trends 2010 Report is the Arctic Council's contribution to the 2010 International Year of Biodiversity and will be a preliminary product under the Arctic Council's project on Arctic biodiversity assessment.[469] The report presents a broad spectrum of changes in the Arctic ecosystems and biodiversity. A key finding is that climate change is emerging as the most far-reaching and significant stressor on Arctic biodiversity. A full and comprehensive assessment is expected to be completed in 2013.

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462 Antarctic Treaty newsletter, year 6, No. 1, 25 January 2010, available at www.ats.aq/devPH/newsletters/15_e.pdf.

463 Ibid.

464 See www.asoc.org/LinkClick.aspx?fileticket=YfjNiDdBiak%3d&tabid=197.

465 Ibid.

466 See http://arctic-council.org/section/meetings.

467 See http://caff.arcticportal.org/.

468 See http://arctic-council.org/filearchive/pame_work_plan_2009-2011.pdf.

469 See http://arcticbiodiversity.is/images/stories/Arctic_Biodiversity_Trends_2010_-_Press_Release_21_May_2010.pdf.

322. The International Polar Year Oslo Science Conference, held in June 2010, published early results from the International Polar Year 2007/08, with particular emphasis on new knowledge about the linkages between climate change in the polar regions and global climate systems.[470]

### 3. Baltic Sea

323. During 2009, the Baltic Marine Environment Protection Commission continued to focus its work on implementing the Baltic Sea Action Plan (see A/64/66/Add.1, paras. 304 and 305), which identifies actions at the national and regional levels to achieve agreed targets within a given time frame in relation to eutrophication, hazardous substances, maritime safety and accidents response capacity, and habitats destruction and biodiversity.

324. The Commission held a ministerial meeting in Moscow in May 2010 to evaluate the initial implementation of the Action Plan, which aims to radically reduce pollution of the Baltic Sea and restore its good ecological status by 2021. The meeting adopted the "Moscow Declaration", which stated the intention of the Baltic Sea countries to reinforce joint efforts to restore the good ecological status of the Baltic marine environment. The meeting also adopted recommendation 31E/5 on the mutual plan for places of refuge in the Baltic Sea area. The mutual plan is an agreement among the Baltic Sea countries to grant to a ship in need of assistance the best shelter irrespective of States' borders. The recommendation also aims at creating a harmonized liability and compensation regime in the whole region.[471]

325. In 2010 the Baltic Marine Environment Protection Commission has released its Initial Holistic Assessment of the Ecosystem Health of the Baltic Sea 2003-2007,[472] which assesses the entire regional sea, including the status, pressures and impacts on the environment and associated costs and benefits to society. The report will be used to facilitate the regional coordination and implementation of certain European Union directives, such as the Marine Strategy Framework Directive.[473]

326. Additionally, two reports have been released: Integrated Thematic Assessment of Hazardous Substances in the Baltic Sea[474] and Integrated Thematic Assessment on Maritime Activities and Response to Pollution at Sea in the Baltic Sea Region.[475]

327. The Commission has developed a list of non-indigenous, cryptogenic and harmful native species in the Baltic Sea, as well as a list of "target species" that may impair or damage the environment, human health, property or resources in the Baltic

[470] See http://ipy.no/filearchive/press_release1.pdf.

[471] Contribution of the Baltic Marine Environment Protection Commission.

[472] See www.helcom.fi/stc/files/Publications/Proceedings/bsep122.pdf.

[473] Contribution of the Baltic Marine Environment Protection Commission.

[474] This assessment describes and documents the degree of contamination and effects of pollution by hazardous substances in the Baltic Sea area (www.helcom.fi/stc/files/Publications/Proceedings/bsep120B.pdf).

[475] The assessment provides baseline data on shipping and other activities in the Baltic Sea, and an overview of measures that are being implemented in order to reduce pollution from various maritime activities, improve navigational safety and response capacity in the region. See www.helcom.fi/stc/files/Publications/Proceedings/bsep123.pdf.

Sea. This list will serve the implementation of the Ballast Water Management Convention.[476]

328. The Commission has also carried out work towards implementing broad-scale marine spatial planning (see para. 308 above).[477]

### 4. Black Sea

329. Regular annual biodiversity outlooks and fishery reports are produced by the Black Sea Commission on the basis of reports from States on different indicators such as species richness, abundance and biomass, protected areas, conservation status of species, invasive and opportunistic species, habitats and fishery indicators.[478] Following up on the European Union Marine Strategy and the Black Sea Biodiversity and Landscape Conservation Protocol, the Biodiversity Working Group on Marine Protected Areas of the Environmental Collaboration for the Black Sea[479] prepared the final draft of the "Guidelines for the Establishment of Marine Reserves in the Black Sea", which has been transmitted to the Permanent Secretariat of the Commission on the Protection of the Black Sea against Pollution.

330. With a view to strengthening the scientific foundations of decision-making in the Black Sea region, the Black Sea Commission is preparing for the third biannual Black Sea Scientific Conference, to be held in conjunction with the Black Sea Day celebration in Istanbul, Turkey, in October 2011.

331. The revision of the list of hot spots of land-based sources of pollution in the Black Sea region was finalized in Bulgaria, Romania and Georgia. The list of hot spots for Turkey was presented in October 2010. The Black Sea Commission continues producing regular annual reports on this matter, where major municipal, industrial sources of pollution and river loads are evaluated for their contribution to the contamination of the Black Sea.[480]

332. The environmental safety aspects of shipping constitute a major component of the 2009-2010 plan of the Commission.[481] At the end of 2009, the Commission signed an agreement with IMO for joint activities to enhance the safety of shipping in the Black Sea. A regional training course on the legal implementation of the Ballast Water Management Convention was held in Odessa, Ukraine, in July 2010 with the participation of representatives from all Black Sea coastal States and lecturers from IMO and the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea.[482] Furthermore, a training course was organized with the Environmental Maritime Safety Agency on the use of satellite imagery for identifying oil spills.[483]

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[476] UNEP contribution.

[477] Ibid.

[478] Ibid.

[479] See www.ecbsea.org/en/ukraine/reserves_management/.

[480] Ibid.

[481] Ibid.

[482] See www.rempec.org/news.asp?theIDS=2_39&daChk=0&theName=News).

[483] UNEP contribution.

### 5. East Asian and South Asian Seas

333. The report entitled "State of the Marine Environment Report for the East Asian Seas, 2009", prepared by the Coordinating Body on the Seas of East Asia and UNEP and released in February 2010, provides information on the state and trends of the coastal and marine environment in East Asia from 1981 to 2006; an outlook for the period from 2007 to 2017; and sets forth options for action by countries participating in the Coordinating Body.[484]

334. The Coordinating Body continued its work on coral reef monitoring and management. It has also embarked on the establishment of a "Green Fins" online database for basic coral reef data.[485]

335. The triennial East Asian Seas Congress was held in November 2009 (see para. 231 above).

336. The draft work programme for the South Asian Seas Programme for the period 2009-2010 includes programmes on marine litter, global invasive species, collaborative activities, oil spill contingency planning, the revision of the South Asian Seas Action Plan and strengthening and capacity development for the long-term management and conservation of marine and coastal protected areas encompassing coral reef resources.

### 6. Mediterranean Sea

337. A new report entitled "State of the Environment and Development in the Mediterranean, 2009" highlights challenges faced in the protection of the environment and the promotion of sustainable development.[486] In particular, the report shows the major impacts that climate change will have in the Mediterranean.

338. Mandatory deadlines to reduce and eliminate obsolete chemicals, pesticides and pollutants originating from land-based industrial activities and agriculture have entered into force for Contracting Parties to the Barcelona Convention and its Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities. Three regional plans adopted at the sixteenth ordinary Meeting of the Contracting Parties to the Barcelona Convention in November 2009, developed in the framework of the Coordinated Mediterranean Pollution Monitoring and Research Programme of the UNEP Mediterranean Action Plan, target the reduction of urban waste waters, and the elimination of a series of chemicals and pesticides.[487]

339. In June 2010, the Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean also agreed on eight strategic priorities to efficiently address the issue of ships' ballast water and invasive species in the Mediterranean. The strategic priorities are aimed at achieving a regional harmonized approach to ships' ballast water control and management.[488]

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[484] See www.cobsea.org/documents/Report-SOMER/Press%20ReleaseEastAsianSeasFINAl%20revised.pdf.

[485] UNEP contribution.

[486] UNEP, "State of the Environment and Development in the Mediterranean — 2009" (2010).

[487] See www.unepmap.org/index.php?module=news&action=detail&id=93; http://195.97.36.231/acrobatfiles/09IG19_8_Eng.pdf.

[488] See www.unepmap.org/index.php?module=news&action=detail&id=91.

340. The Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea has started implementing the Global Environment Facility/UNDP/IMO Globallast Partnerships programme in the Mediterranean with a view to adopting a regional strategy for the management of ballast water from ships consistent with the requirements of the Ballast Water Management Convention. A regional task force was established and the main principles and elements of the strategy have been adopted.

341. With the technical support of IMO and the European Maritime Safety Agency, the Centre has started the implementation of a European Union-financed regional project entitled "SafeMed II".[489]

### 7. North-East Atlantic

342. The Commission for the Protection of the Marine Environment of the North-East Atlantic presented its quality status report 2010 to its ministerial meeting held in Bergen, Norway, in September 2010.[490] The report underpins a review of the Commission's strategies, including the development of a new ecosystem approach strategy to facilitate the implementation of the European Union's Marine Strategy Framework Directive.[491]

343. The Commission for the Protection of the Marine Environment of the North-East Atlantic has also finalized a series of assessments of the impact of human activities on the marine environment. These include the reports "The OSPAR system of ecological quality objectives for the North Sea", "Marine litter in the North-East Atlantic region" and "Assessment of impacts of offshore oil and gas activities in the North-East Atlantic".[492] The report reveals that the Arctic (Commission region I) is most impacted by climate change as a result of melting sea ice, freshwater inputs and associated ocean acidification.

344. Work is under way to finalize an overview of the impacts of anthropogenic underwater sound on the marine environment (see para. 264 above). The Commission for the Protection of the Marine Environment of the North-East Atlantic has reached agreement with the Baltic Marine Environment Protection Commission on joint guidance for ballast water exchange in advance of the Ballast Water Management Convention coming into force. The Commission for the Protection of the Marine Environment of the North-East Atlantic published an overview report of national marine spatial planning and control systems relevant to its Maritime Area. It also continues its work on marine protected areas (see para. 294 above).

345. Work has continued in the context of the 1983 Agreement for Cooperation in Dealing with the Pollution of the North Sea by Oil and other Harmful Substances on technical and operational means for dealing with pollution incidents including surveillance of illegal discharges together with preparedness and response for accidental incidents.[493]

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[489] UNEP contribution. Further information on the projects is available at www.safemedproject.org.

[490] See www.ospar.org/html_documents/ospar/html/ospar_enewsletter_issue3_080410.pdf.

[491] UNEP contribution. See also www.ospar.org/content/content.asp?menu=01441000000000_000000_000000.

[492] See www.ospar.org/v_publications/browse.asp?menu=00080800000000_000000_000000.

[493] UNEP contribution.

## 8. North-West Pacific

346. At the fourteenth intergovernmental meeting of the Northwest Pacific Action Plan, held in Toyoma, Japan in December 2009, the Contracting Parties to the Plan adopted a resolution requesting its Regional Coordination Unit to develop a new project proposal for an assessment of the current status of marine and coastal biodiversity in the region of the plan, including marine threats, pressures, impacts and trends, at the ecosystem, community, habitat and key species levels.[494] The Regional Coordination Unit has also prepared a proposal for long-term biodiversity assessment.[495] The results of this assessment will be reported to the fifteenth intergovernmental meeting in 2010.

347. Through its four regional activity centres,[496] the Northwest Pacific Action Plan has continued to develop partnerships by co-organizing workshops and training courses, sharing information and coordinating activities on issues such as harmful algal blooms, remote sensing and integrated coastal and river basin management with the Coordinating Body on the Seas of East Asia, the North Pacific Marine Science Organization and the Yellow Sea Large Marine Ecosystem Project, as well as with PEMSEA and the IOC Subcommission for the Western Pacific.[497] For example, a workshop on marine litter management was organized in Hirado, Japan, in March 2010.

348. The Northwest Pacific Action Plan has also developed a draft medium-term strategy with six thematic elements, which is expected to be approved at the fifteenth intergovernmental meeting in November 2010.[498]

## 9. Pacific

349. In November 2009, the twentieth meeting of the Pacific Regional Environment Programme endorsed the process for approval of the Strategy for the Pacific Ocean Pollution Prevention Programme 2010-2014.[499] New priority areas include a study on the impacts of cruise vessels, marine litter, marine noise, derelict and abandoned vessels and designating places of refuge during maritime incidents.[500] The secretariat of the Programme has also begun work on reviewing and updating the action plan for 2011 to 2016.[501]

350. Other activities have included the development of a regional action plan for sharks, the development of regional arrangements for the conservation of cetaceans, dudongs and marine turtles under the auspices of the Convention on Migratory Species of Wild Animals.[502] In 2009, the secretariat of the Programme also published a study entitled on the status and potential of locally managed marine areas in the South Pacific.[503]

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[494] See UNEP/NOWPAP IG. 14/11, resolution 5.
[495] See www.nowpap.org/news/quarterly/10-1.pdf.
[496] See www.nowpap.org.
[497] See www.nowpap.org/news/quarterly/10-1.pdf; resolution 3, at paras. 19-21.
[498] UNEP contribution.
[499] Report of the 20th meeting, available at www.sprep.org/att/publication/000754_EnglishFinalReport20sm.pdf, para. 183.
[500] See www.sprep.org/att/publication/000852_PACPOL_STRATEGY.pdf, at . vi.
[501] Report of the 20th meeting, note 500 above, paras. 77-94.
[502] Ibid., 130-157.
[503] See www.sprep.org/att/publication/000646_LMMA_Report.pdf.

### 10. Red Sea and Gulf of Aden

351. PERSGA organized a number of multidisciplinary training programmes and workshops, including on modelling and control of chemical spills, ballast water management, vulnerability and resilience of coral reefs to climate change, management of marine protected areas and port State control, ecosystem approach in the management of fishery resources and seawater monitoring and pollution from land-based activities.[504]

352. On the basis of a series of assessment surveys in the member States, PERSGA published the second regional coral reef status report at the beginning of 2010.[505]

353. An agreement was signed with the United Nations Industrial Development Organization in March 2009 to launch a project aimed at implementing strategies for reduction of unintentional production of persistent organic pollutants in the region. The first phase of the project was implemented during 2009 and early 2010. In addition, a regional action plan for management of marine litter was published in collaboration with UNEP.[506]

### 11. South-East Pacific

354. The Permanent Commission for the South Pacific organized a number of expert workshops on environmental issues, including the fourth workshop on the eco-labelling of fisheries products, held with the support of the World Wildlife Fund for Nature.

355. The regional plan of action for the conservation of sharks, rays and chimaeras in the South-East Pacific was approved and put into effect with the establishment of a scientific and technical committee. National and regional workshops were organized with representatives of Chile, Colombia, Ecuador and Peru for the promotion and coordination of the regional plan. A workshop with the aim of harmonizing fishery statistics in the South Pacific region was held in August 2010 in order to establish a new working group of the Permanent Commission on fishery statistics.

356. The Permanent Commission participated in the negotiating process of the South Pacific Regional Management Organization leading to the adoption of the final text of the Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean. A symposium on sustainability criteria for fisheries subsidies was organized.

357. A special meeting of the Permanent Commission-FAO working group on resource assessment and artisanal fisheries in the South-East Pacific was held. The main outcome of the meeting was a document agreed upon by the country representatives establishing the main points for formulating a regional project for the development of artisanal fisheries.[507]

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[504] PERSGA contribution.

[505] See www.icriforum org/sites/default/files/Coral_Reef_Status_Report_2009_0.pdf.

[506] See www.unep.org/regionalseas/globalmeetings/default_ie.asp.

[507] Ibid.

### 12. Western, central and eastern Africa

358. UNEP reported that future activities of the Regional Seas Programme in these regions would focus on promoting the implementation and enforcement of the protocols adopted by the parties to the Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region and the Convention for Cooperation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region aimed at addressing threats to the marine and coastal environments from land-based sources and activities.

359. The Sixth Meeting of Contracting Parties to the Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region, held from 29 March to 1 April 2010 under the theme of "Sustaining progress", adopted the Amended Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Western Indian Ocean and the Protocol for the Protection of the Marine and Coastal Environment of the Western Indian Ocean from Land-based Sources and Activities; endorsed the Strategic Action Programme for the Protection of the Marine and Coastal Environment in the Western Indian Ocean from Land-based Sources and Activities; and endorsed the process for developing a new long-term action strategy that will replace the 1985 Eastern Africa Action Plan.[508]

360. The Nairobi Convention and the African Union have partnered through joint programming to assist member States in addressing policy, legislative and institutional issues and to provide guidance on the appropriate measures towards ratification and effective implementation of the Protocol for the Protection of the Marine and Coastal Environment of the Western Indian Ocean from Land-based Sources and Activities.

### 13. Wider Caribbean

361. The Caribbean Environment Programme has promoted accession/ratification of the Protocol concerning Pollution from Land-based Sources and Activities. As a result, France, Saint Lucia, Belize and the United States have ratified the Protocol, bringing the total number of Contracting Parties to six, including Panama and Trinidad and Tobago. The Protocol will enter into force following ratification by an additional three States.

362. A number of pilot projects were undertaken to further the implementation of the regional action plan including a project testing a prototype Caribbean regional fund for wastewater management, and the publication on "Marine Litter in the Wider Caribbean: A Regional Overview and Action Plan".

363. IMO, the United Nations Regional Coordinating Unit for the Caribbean Environment Programme and the Regional Activity Centre of the Regional Marine Pollution Emergency Information and Training Centre for the Wider Caribbean have hosted pollution prevention national seminars on the ratification and implementation of MARPOL 73/78 Annex V.

364. The Programme collaborates with partners to mitigate the emerging threat posed to biodiversity in the region by alien invasive species through capacity-

[508] See www.unep.org/NairobiConvention/COP6/index.asp.

building. It has provided support to the Caribbean Large Marine Ecosystem Project designed to help the Caribbean countries improve the management of their shared living marine resources, most of which are considered to be fully exploited or overexploited, through an ecosystem-level approach.

365. The fourteenth Intergovernmental Meeting on the Action Plan for the Caribbean Environment Programme and eleventh Meeting of the Contracting Parties to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region was held in October 2010 in Montego Bay, Jamaica, to review the achievements of the Caribbean Environment Programme. The sixth Meeting of the Contracting Parties to the Protocol concerning Specially Protected Areas and Wildlife to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region also took place in October 2010 to review the current status and activities of the Protocol and its workplan.[509]

## M. Small island developing States

366. Oceans and seas play important roles in the histories, cultures and economies of small island developing States.[510] However, the economic, environmental and social vulnerability of those States has increased, threatening their progress towards the achievement of the Millennium Development Goals and other internationally agreed development goals and underlining the need for commensurate action.[511] In preparation for the high-level five-year review of the Mauritius Strategy for the Further Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States, to be convened during the sixty-fifth session of the General Assembly in September 2010,[512] the Commission on Sustainable Development, at its eighteenth session in May 2010, held a "Small Island Developing States Day" which served as the preparatory committee for the high-level review. The outcomes of three regional review meetings[513] held in the Caribbean, Pacific and Africa, Mediterranean, Indian Ocean and South China Sea regions, were presented at an interregional meeting held on 8 May 2010,[514] immediately prior to the preparatory committee. The high-level review will also be informed by national assessment reports from small island developing States, non-small island developing States, agencies and organizations.[515]

367. Despite efforts to promote sustainable and green transport, the preparatory committee highlighted that small island developing States continue to face transport challenges, including those caused by sea level rise and high transport costs, notably in inter-island shipping and seaplane operations. It was also noted that the global production, trade and use of chemicals was increasing, with growth patterns placing an increasing burden on small island developing States in relation to chemicals management. Current waste management practices have resulted in the degradation

[509] See http://cep.unep.org/events-and-meetings/14th-igm.
[510] Contribution of the Department of Economic and Social Affairs of the Secretariat.
[511] Commission on Sustainable Development, report on the eighteenth session, E/CN.17/2010/15.
[512] See www.sidsnet.org/msi_5/prepcom.shtml.
[513] For details on the reports of these meetings, see www.sidsnet.org/msi_5/interregional_meeting.shtml.
[514] Ibid.
[515] Contribution of the Department of Economic and Social Affairs of the Secretariat.

of coral reefs, seagrass beds, mangroves and coastal zones, thereby threatening fisheries and tourism. Such trends have also been exacerbated by climate change. Areas of special concern to small island developing States included the transboundary movement of toxic chemicals and hazardous waste, electronic waste and the global movement of plastics in the oceans. The need for assistance to establish better waste management systems and thus protect seas and oceans was highlighted.[516]

368. The Division for Sustainable Development of the Secretariat is undertaking a capacity-building project entitled "Capacity Development through Education for Sustainable Development and Knowledge Management for Small Island Developing States" with funds-in-trust from the Government of Spain. The project will revitalize the Small Island Developing States Network (SIDSNet), creating a central knowledge management system and information clearing house. It will also develop a virtual curriculum, web-based tools and electronic resources to deliver education for sustainable development for islands in the Caribbean, Pacific and Africa, Mediterranean, Indian Ocean and South China Sea regions through the University Consortium of Small Island States.[517]

369. The United Nations Conference on Trade and Development is increasingly integrating considerations related to relevant implications of climate change for maritime transport into its work, especially taking into account the perspective of developing countries, least developed countries and small island developing States.[518]

370. Work of particular importance to small island developing States on the impacts, vulnerability and adaptation to climate change continues in the context of the United Nations Framework Convention on Climate Change (see sect. XII below) and its Nairobi work programme on impacts, vulnerability and adaptation to climate change.[519]

371. Climate change was the priority issue discussed by the Leaders of the Pacific Islands Forum Smaller Islands States at their nineteenth meeting[520] and at the forty-first meeting of the Pacific Island Forum in August 2010. Pacific Island leaders welcomed a number of key achievements, including strengthened regional approaches to fisheries conservation and management through the collaborative work of the Forum Fisheries Agency and the Secretariat of the Pacific Community and more recently through the efforts of the parties to the Nauru Agreement; and the operation of a subregional shipping feeder service for the smaller island States of the central Pacific. The Pacific Island leaders endorsed the draft Framework for a Pacific Oceanscape (see A/64/66/Add.1, para. 338). The finalization of the delineation of permanent maritime boundaries and the need for effective and coordinated bilateral and regional cooperation to address maritime safety issues were highlighted as issues for particular attention.[521]

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[516] E/CN.17/2010/15; contribution of the Department of Economic and Social Affairs.
[517] Contribution of the Department of Economic and Social Affairs of the Secretariat.
[518] UNCTAD contribution.
[519] See report of the Subsidiary Body for Scientific and Technological Advice on its thirty-second session, Framework Convention document FCCC/SBSTA/2010/6.
[520] Pacific Island Forum Secretariat, press release 67/10, 3 August 2010.
[521] Communiqué of the 41st Pacific Islands Forum, 5 August 2010.

372. A project entitled "Implementing Sustainable Integrated Water Resource and Wastewater Management in the Pacific Island Countries" aims at strengthening the enabling environment for the implementation of the Strategic Action Programme for International Waters of the Pacific Islands Region to promote sustainable development.[522] A project "Integrating Watershed and Coastal Areas Management for Caribbean Small Island Developing States" aims to tackle issues related to the integrated management of watersheds and coastal areas.[523] A project entitled "Implementing Integrated Water Resource and Wastewater Management in Atlantic and Indian Ocean small island developing States" aims at the development of integrated water resource management mechanisms and water use efficiency strategies.[524]

# XII. Climate change and oceans

373. The oceans play a significant role in the global carbon cycle, representing the largest long-term sink for carbon, the largest reservoir and the most important medium for its redistribution. The loss of marine natural carbon sinks can thus pose an imminent threat to climate, health, food security and economic development in coastal areas.[525] Unfortunately, the natural carbon sinks of coastal areas are being damaged and degraded at an increasing rate, which will accelerate climate change and put at risk coastal communities, coral reefs, freshwater systems and marine biodiversity, as well as infrastructure such as ports and power stations.[526]

## A. Impacts of climate change on oceans

374. Climate change continues to impact the oceans, including through rising sea levels, melting Arctic sea ice, increasing acidity, loss of marine biodiversity, increasing frequency and intensity of extreme weather events and shifts in distribution of marine species. Scientists have confirmed that the past decade has been the warmest on record and that the warmer climate has contributed to rising sea levels and sea-surface temperature. Ice cover in the Arctic Ocean continues to decrease, and 2009 marked the third smallest area of sea-ice extent. Arctic sea ice has also become thinner and more prone to rapid melting, with growing proportions of one- and two-year old ice. Ocean acidification has progressed at rates that far exceed models and projections, with impacts on shellfish and corals in the surface layer of the oceans.[527]

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[522] UNEP contribution.

[523] Ibid.

[524] Ibid.

[525] IOC and UNEP contributions.

[526] UNEP, "Blue Carbon: A Rapid Response Assessment", 2009. An estimated 50 per cent of the carbon in the atmosphere that becomes bound or sequestered in natural systems is cycled into the seas and oceans.

[527] See, for example, *UNEP Year Book 2010*, available at www.unep.org/pdf/year_book_2010.pdf; D. S. Arndt et al. (eds.), "State of the Climate in 2009", Bull. Amer. Meteor. Soc., 91 (6), S1-S224; UNEP, Climate Change Science Compendium 2009, available at www.unep.org/compendium2009; UNESCO, "Climate Change and Arctic Sustainable Development: Scientific, Social, Cultural and Educational Challenges", Paris, 2009. For additional information, see www.un.org/wcm/content/site/climatechange/gateway.

375. Efforts are being made to raise awareness and increase scientific activity in order to improve understanding of the impacts of climate change on the oceans. In September 2009, on the margins of the meeting of the Ad Hoc Working Group of the Whole on the Regular Process, the Department of Economic and Social Affairs and the Division for Ocean Affairs and the Law of the Sea of the Secretariat, in cooperation with the United Nations Foundation, organized an expert panel on ocean acidification, including an interactive discussion on potential international cooperation, possible actions and measures by the international community and how to raise awareness of the issue.[528] During the fifteenth meeting of the Conference of the Parties to the United Nations Framework Convention on Climate Change, an Oceans Day was organized by the Global Forum on Oceans, Coasts and Islands,[529] focusing on the central role of the oceans in climate change and the threats, including from ocean warming, sea level rise, extreme weather events and ocean acidification.[530] During the thirty-second session of the Subsidiary Body for Scientific and Technological Advice of the United Nations Framework Convention on Climate Change, in May and June 2010, a research dialogue was held to highlight ongoing research activities and scientific findings and to communicate research needs and priorities relevant to the Convention to the research community, including topics related to oceans and the marine environment, in particular, ocean acidification.[531]

376. The fourteenth meeting of the Subsidiary Body for Scientific, Technical and Technological Advice of the Convention on Biological Diversity, held in May 2010, highlighted the need for further research on ocean acidification in its recommendations to the tenth meeting of the Conference of the Parties to the Convention on Biological Diversity.[532] In particular, it recommended that the Conference of the Parties request the Convention on Biological Diversity Executive Secretariat to develop, in collaboration with relevant organizations and scientific groups, a series of joint expert review processes to monitor and assess the impacts of ocean acidification on marine and coastal biodiversity.[533]

377. In November 2010, the IAEA Marine Environment Laboratory will organize an international workshop on the environmental and economic impacts of ocean acidification, with the aim of bringing together the leading scientific investigators of ocean acidification and economists to discuss biodiversity, economic evaluation, policy perspective and social welfare.[534] The Convention on Biological Diversity reported that it had prepared a number of scientific synthesis reports on the impacts on marine and coastal biodiversity, including a report on potential impacts of direct human-induced ocean fertilization on marine biodiversity[535] and a report on ocean

[528] Contribution of the Department of Economic and Social Affairs of the Secretariat.

[529] The forum is composed of experts from Governments, intergovernmental organizations, and non-governmental organizations (environmental, scientific/technical, industry, and foundations) with the common goal of encouraging the sustainable development of oceans, coasts, and islands. See www.globaloceans.org.

[530] IOC and UNEP contributions.

[531] United Nations Framework Convention on Climate Change contribution. Further information is available at http://unfccc.int/2860.php.

[532] UNEP/CBD/COP/10/3.

[533] Recommendation XIV/3 in UNEP/CBD/COP/10/3.

[534] IAEA contribution.

[535] See Convention on Biological Diversity, Technical Series No. 45, available at www.cbd.int/doc/publications/cbd-ts-45-en.pdf.

acidification and its impacts on marine biodiversity and habitats.[536] The joint secretariat of the Convention on Migratory Species of Wild Animals and the Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas also supported production of a scientific review of climate change vulnerability of migratory species, which was discussed during the sixteenth meeting of the Convention's Scientific Council in June 2010.[537]

## B. Mitigating the impact of climate change in the context of ocean-related activities

378. A wide range of actions are being taken at national, regional and international levels to mitigate the impacts of climate change, including in the context of ocean-related activities.[538] The ocean and coastal ecosystems have an important role in mitigating the impacts of climate change. Therefore, there is a need to prevent the decline of these ecosystems, including from unsustainable natural resource use practices, poor watershed management, poor coastal development practices and poor waste management.[539]

### 1. Reduction of greenhouse gas emissions from ships

379. IMO has made significant efforts to reduce greenhouse gas emission from ships, including through the development of technical and operational measures that will serve as performance standards for increased energy efficiency in international shipping.[540] The outcome of the work of IMO in this regard was reported to the fifteenth meeting of the Conference of the Parties to the United Nations Framework Convention on Climate Change, which concluded with the parties taking note of the Copenhagen Accord, but without any firm outcome related to policy approaches and measures to limit and reduce greenhouse gas emissions from international maritime transport.[541]

380. At its session in March 2010, the Marine Environment Protection Committee held discussions on making its technical and operational measures mandatory. It also established the basic concepts and developed draft regulatory text as possible amendments to MARPOL 73/78 Annex VI.[542] The Marine Environment Protection Committee concluded that more work was needed, in particular on ship size, target dates and reduction rates in relation to the energy efficiency design index for new

[536] Convention on Biological Diversity contribution. See also Technical Series No. 46, available at www.cbd.int/doc/publications/cbd-ts-46-en.pdf. It is predicted that 10 per cent of the surface waters of the Arctic Ocean will become under-saturated with respect to carbonate minerals by the year 2032, and that the Southern Ocean will begin to become under-saturated with respect to carbonate minerals by 2050, with potential disruptions to large components of the marine food web (see recommendation XIV/3 in UNEP/CBD/COP/10/3).

[537] Contribution of the Convention on Migratory Species of Wild Animals.

[538] For additional information, see http://unfccc.int/2860.php and www.un.org/wcm/content/site/climatechange/gateway.

[539] UNEP, note 527 above. Coastal ecosystems, such as mangroves, salt marshes and seagrasses, are responsible for capturing and storing up to 70 per cent of the carbon permanently stored in the marine environment.

[540] See, for example, A/64/66/Add.1, paras. 349-353, and IMO Assembly resolution A.963(23).

[541] IMO contribution.

[542] IMO contribution.

ships. It agreed to establish an intersessional meeting of its working group on energy efficiency measures for ships, to report to the Committee at its next session in September-October 2010.

381. With regard to market-based mechanisms for international maritime transport, the Marine Environment Protection Committee agreed to establish an expert group to undertake a feasibility study and impact assessment of various proposals in line with the workplan agreed at its last session. The study will identify the greenhouse gas emissions reduction potential for each proposed market-based mechanism, its impact on world trade and the shipping industry, and the maritime sector in general, giving priority to the maritime sectors in developing countries.[543]

## 2. Ocean fertilization and carbon sequestration

382. Concerns continue to be expressed over certain proposed methods to mitigate the impact of climate change in the context of ocean-related activities, including large-scale ocean fertilization and carbon sequestration.

383. *Ocean fertilization.* In 2008, the governing bodies of the London Convention and the London Protocol adopted resolution LC-LP.1(2008) on the regulation of ocean fertilization, disallowing all ocean fertilization activities other than legitimate scientific research.[544] The parties to the London Protocol also agreed to consider a potential legally binding resolution or an amendment to the London Protocol on ocean fertilization at its next session in 2009.[545] During the thirty-first Consultative Meeting of Contracting Parties to the London Convention and the fourth Meeting of Contracting Parties to the London Protocol, held in October 2009, the governing bodies noted that many issues for the adoption of a new regulation had yet to be resolved, and that the draft assessment framework for scientific research involving ocean fertilization being developed by the scientific groups would be an important tool for implementing any future regulation. Priority was thus given to resolving several issues relating to the draft assessment framework so that it could be completed in 2010, leaving insufficient time to further examine the options to address ocean fertilization activities.[546]

384. *Carbon sequestration.* Following the entry into force in 2007 of amendments to the London Protocol on the control of carbon dioxide capture and storage in sub-seabed geological formations, discussions continued in the governing bodies in 2008 on such capture and storage in transboundary formations and, in particular, the development of (a) a possible amendment to article 6 of the London Protocol regarding the prohibition of export of wastes for disposal at sea, or (b) an interpretative resolution, or (c) a combination of the two.[547]

385. In 2009, the parties to the London Protocol considered a formal proposal by Norway to amend article 6. A majority of the parties favoured, in principle, an amendment to article 6 to exclusively enable the export of carbon dioxide streams

[543] IMO contribution.
[544] See A/64/66/Add.1, paras. 354-355.
[545] IMO contribution. See IMO document LP/CO2 2/5.
[546] IMO contribution.
[547] See A/64/66/Add.1, paras. 356-357.

for the purpose of storage in transboundary sub-seabed geological formations.[548] A resolution to amend article 6 of the London Protocol was adopted.[549]

## C. Adapting to projected climate change

386. There is an urgent need for coastal communities to adapt to projected climate change, particularly in the light of evidence that emissions resulting from the use of fossil fuels have increased.[550] Recent activities in this regard have focused on the importance of marine and coastal biodiversity and the need for ecosystem-based adaptations strategies. For example, scientists have highlighted the importance of sustaining marine natural carbon sinks, such as mangroves, salt marshes and seagrasses, and for ecosystem-based adaptation strategies to reduce the vulnerability of coastal communities to climate change.[551] Halting the decline of these ecosystems would generate economic revenue, food security and improve livelihoods in the coastal zone and provide major economic and development opportunities for coastal communities around the world, in particular small island developing States.[552]

387. The Subsidiary Body for Scientific, Technical and Technological Advice of the Convention on Biological Diversity, at its fourteenth meeting, highlighted the importance of marine and coastal biodiversity and ecosystems and the need for ecosystem-based approaches in adapting to climate change.[553] For example, it recommended that the parties to the Convention be invited to address climate-change adaptation and mitigation issues by, inter alia, identifying current scientific and policy gaps in order to promote sustainable management, conservation, and enhancement of natural carbon sequestration services of marine and coastal biodiversity; identifying and addressing the underlying drivers of marine and coastal ecosystem loss and destruction, and improving the sustainable management of coastal and marine areas; and enhancing efforts to increase the resilience of coastal and marine ecosystems.[554]

388. A two-day ministerial roundtable was organized in October 2009 in Paris as part of the UNESCO biannual General Conference, which highlighted the vital role of oceans in understanding climate change and in providing ecological services to human well-being, in particular to coastal communities, as well as adapting coastal communities to sea level rise.[555] The eighteenth session of the Commission on Sustainable Development also recognized the vulnerability of small island developing States to sea level rise.[556]

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[548] IMO contribution.

[549] Resolution LP.3(4) of 30 October 2009. As of 30 June 2010, only Norway has ratified the amendment.

[550] Emissions have reportedly increased by 29 per cent between 2000 and 2008. See, for example, *UNEP Year Book 2010*, available at www.unep.org/pdf/year_book_2010.pdf.

[551] UNEP, note 527 above. Also see the report of the second meeting of the Ad Hoc Technical Expert Group on Biodiversity and Climate Change (UNEP/CBD/SBSTTA/14/INF/21).

[552] See UNEP, note 527 above, and UNEP/CBD/SBSTTA/14/INF/21.

[553] UNEP/CBD/COP/10/3.

[554] See recommendation XIV/3 in UNEP/CBD/COP/10/3.

[555] IOC contribution.

[556] Contribution of the Department of Economic and Social Affairs of the Secretariat.

389. Delegates at Oceans Day, organized by the Global Forum on Oceans, Coasts and Islands in the context of the fifteenth meeting of the Conference of the Parties to the United Nations Framework Convention on Climate Change, recognized the need for an integrated oceans and coasts programme within the Framework Convention by 2013. The Fifth Global Oceans Conference, held in Paris in May 2010, also addressed the challenges and opportunities posed by the emerging international consensus on a new climate regime.[557]

390. In 2009, the United Nations Conference on Trade and Development held a meeting of experts on how to deal with the multiple challenges of climate change for the maritime transport sector, especially those of concern to developing countries, least developed countries and small island developing States, with a focus on mitigation and adaptation, as well as energy, technology and finance.[558] In this regard, climate change will have direct and indirect impacts on international maritime transport, for example, by rising sea levels, extreme weather events and rising temperatures, with potential implications for trade, economic growth and development.[559] The meeting highlighted the need for international cooperation between scientists and engineers, industry, international organizations and policymakers in relation to the preparation and design of adequate adaptation measures.[560]

391. At the regional level, PERSGA developed a regional strategy for adaptations to climate change impacts in the Red Sea and Gulf of Aden.[561] IOC is implementing a four-year regional project on adaptation to climate change in coastal areas of West Africa, funded by the Global Environment Facility. It also implemented a regional training programme to build technical capacity in the area of coastal adaptation, and supported experts participating in international conferences on climate change.[562]

392. The Permanent Commission for the South Pacific promoted discussion on climate change and its effects in the coastal region of the South-East Pacific by organizing an international meeting which assessed the state of knowledge on climate change and climate variability phenomena in the region and discussed a regional pilot project for monitoring and adaptation to climate change.[563] The Parliamentary Assembly of the Council of Europe adopted a number of decisions relating to climate change, including a resolution on the challenges posed by climate change.[564]

# XIII. Settlement of disputes

## A. International Court of Justice

393. On 25 February 2010 and 16 June 2010, respectively, Costa Rica and Honduras filed applications for permission to intervene in the case concerning *Territorial and Maritime Dispute (Nicaragua v. Colombia)*.

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[557] IOC contribution.
[558] See UNCTAD/DTL/TLB/2009/1, available at www.unctad.org/ttl/legal.
[559] UNCTAD contribution. Also see UNCTAD/DTL/TLB/2009/1, Part Two, available at www.unctad.org/ttl/legal.
[560] UNCTAD contribution.
[561] PERSGA contribution.
[562] IOC contribution.
[563] Permanent Commission for the South Pacific contribution.
[564] Council of Europe contribution.

394. On 31 May 2010, Australia instituted proceedings against Japan in relation to *Whaling in the Antarctic*, which concerns the second phase of the Japanese Whale Research Programme under Special Permit in the Antarctic, in the light of "the obligations assumed by Japan under the International Convention for the Regulation of Whaling, as well as its other international obligations for the preservation of marine mammals and marine environment".

## B. International Tribunal for the Law of the Sea[565]

395. On 14 December 2009, proceedings were instituted before the Tribunal in relation to the dispute concerning delimitation of the maritime boundary in the Bay of Bengal between Bangladesh and Myanmar.

396. On 16 December 2009, the Special Chamber of the Tribunal formed to deal with the *Case concerning the Conservation and Sustainable Exploitation of Swordfish Stocks in the South-Eastern Pacific Ocean* (Chile v. European Community) adopted an order to discontinue the proceedings, by agreement of the parties, and the removal of the case from the List of cases.

397. On 12 February 2010, the President of the International Tribunal for the Law of the Sea appointed three arbitrators, Rüdiger Wolfrum (Germany), Tullio Treves (Italy) and Ivan Shearer (Australia), to serve in the arbitral proceedings instituted in accordance with Annex VII for the settlement of the maritime delimitation dispute between Bangladesh and India in the Bay of Bengal. The President also appointed Rüdiger Wolfrum as the president of the arbitral tribunal. These appointments were made in consultation with the parties to the dispute.

398. On 14 May 2010, the Seabed Dispute Chamber of the Tribunal received a request from the Council of the International Seabed Authority for an advisory opinion concerning *The responsibilities and obligations of States sponsoring persons and entities with respect to activities in the International Seabed Area.*

# XIV. International cooperation and coordination

## A. United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea

399. The Informal Consultative Process held its eleventh meeting in New York from 21 to 25 July 2010. As decided by the General Assembly in its resolution 64/71, the Consultative Process focused its discussions on capacity-building in ocean affairs and the law of the sea, including marine science.[566] The report of the meeting consists of the Co-Chairs' summary of discussions (A/65/164).

400. It is recalled that the General Assembly, at its sixty-third session, decided to continue the Informal Consultative Process for two years, in accordance with

[565] See www.itlos.org/.

[566] The report prepared by the Secretary-General on the topic of focus (A/65/69) is available at www.unga-regular-process.org/.

resolution 54/33, and will further review its effectiveness and utility at its sixty-fifth session.[567]

## B. Regular process for global reporting and assessment of the state of the marine environment, including socio-economic aspects

401. Pursuant to General Assembly resolution 63/111, the Ad Hoc Working Group of the Whole met at United Nations Headquarters in New York from 31 August to 4 September 2009 to recommend a course of action on the Regular Process to the General Assembly at its sixty-fourth session, on the basis of the outcomes of the fourth meeting of the Ad Hoc Steering Group.[568] In accordance with paragraph 94 (d) of General Assembly resolution 60/30, the meeting also considered the report on the results of the "assessment of assessments" (A/64/88), as transmitted by UNEP and IOC.[569]

402. In its resolution 64/71, the General Assembly endorsed the recommendations adopted by the Ad Hoc Working Group of the Whole. In order to facilitate decisions on the first cycle of the Regular Process, the Assembly invited States to submit their views to the Secretary-General on the fundamental building blocks of the Regular Process.[570] The report of the Secretary-General presenting those views is available as document A/65/69/Add.1.

403. Furthermore, pursuant to paragraph 180 of resolution 64/71, a Group of Experts was constituted[571] to respond and make suggestions on the issues listed in paragraph 60 of the report on the results of the "assessment of assessments"[572] at the meeting of the Ad Hoc Working Group of the Whole in 2010, including the possibility of conducting preparatory work, as appropriate, and subject to the availability of funds, taking into account the views and observations submitted by States. With a view to facilitating the discharge of the mandate of the Group of Experts under the resolution, the Division set up a virtual office for exchanges among the Experts and organized two preparatory meetings of the Group, on 3 and 4 June 2010 in Paris and on 29 August 2010 in New York.[573] IOC of UNESCO and UNEP provided financial support to both meetings and contributed, in particular, to defraying the costs of participation of Experts from developing countries in the meeting of the Ad Hoc Working Group of the Whole, held from 30 August to 3 September 2010. Their contribution, as well as funds from the regular budget of the Division, supplemented the funds available from the voluntary Trust Fund established by the Secretary-General pursuant to paragraph 183 of General Assembly resolution 64/71.

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567 Resolution 63/111, para. 160.

568 The General Assembly established the Ad Hoc Steering Group in its resolution 60/30 to oversee the execution of the "assessment of assessments".

569 The report of the meeting is contained in document A/64/347.

570 General Assembly resolution 64/71, para. 179.

571 The Group of Experts was constituted of 19 Experts as of 18 May 2010. The list of the nominated Experts is available from www.un.org/Depts/los/global_reporting/global_reporting.htm.

572 A/64/88, annex.

573 Informational material from the Group of Experts is available on the Division's website at www.un org/Depts/los/global_reporting/group_of_experts_information_material_13%20August.pdf.

404. The meeting of the Ad Hoc Working Group of the Whole in 2010 has been convened to further consider and make recommendations to the General Assembly at its sixty-fifth session on the modalities for the implementation of the Regular Process.[574]

405. At its 43rd session, the IOC Executive Council recommended that IOC programmes on ocean sciences, the Global Ocean Observing System, the International Oceanographic Data and Information Exchange, and capacity development, and its regional subsidiary bodies, fully participate in activities relating to the establishment and operationalization of the Regular Process.[575] As a contribution to the Regular Process, the UNEP World Conservation Monitoring Centre, in collaboration with the Global Research Information Database in Arendal, Norway, is developing a prototype clearing house mechanism aimed at supporting the information management needs of the Regular Process.[576]

## C. UN-Oceans

406. UN-Oceans, the inter-agency coordination mechanism on ocean and coastal issues within the United Nations system, held its eighth meeting on 5 May 2010 at UNESCO headquarters in Paris.[577] In accordance with the principle of rotation of posts among UN-Oceans members and on a consensus basis, Andrew Hudson (UNDP) and Jacqueline Alder (UNEP) were elected, respectively, as new Coordinator and Deputy Coordinator of UN-Oceans.[578]

407. With respect to the task forces, UN-Oceans considered the results of discussions by the task force on biodiversity in areas beyond national jurisdiction on various proposals presented in the Secretary-General's report prepared for the meeting of the Working Group (A/64/66/Add.2).[579] It was noted that, if decided by the General Assembly, the task force could facilitate the implementation of relevant recommendations of the General Assembly addressed to competent international organizations to achieve a coordinated approach and follow-up action by relevant organizations.[580]

408. As regards the Regular Process, UN-Oceans members were informed about a new project, entitled "Transboundary Water Assessment Programme", which would also serve the needs of the Regular Process in terms of assessment methodology, data gathering and products. The Transboundary Water Assessment Programme will be focusing on the development of a common marine assessment methodology for

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[574] Resolution 64/71, para. 180.

[575] See IOC/EC-XLIII/3.

[576] UNEP contribution.

[577] Representatives of the following entities attended the meeting: WMO, the Secretariat of the United Nations (Division for Ocean Affairs and the Law of the Sea), UNESCO/IOC, FAO, IAEA, UNDP (Coordinator) and UNEP (Deputy Coordinator). Contributions to the meeting from representatives from IMO and the secretariat of the Convention on Biological Diversity were received by e-mail.

[578] Report of the eighth meeting of UN-Oceans, available at www.oceansatlas.org/www.un-oceans.org/Index.htm.

[579] See proposals contained in A/64/66/Add.2, paras. 189, 207 and 247.

[580] Report of the eighth meeting of UN-Oceans, available at www.oceansatlas.org/www.un-oceans.org/Index.htm.

open-ocean large marine ecosystem regions and coastal zones.[581] The meeting discussed the need to clarify future interactions between the Regular Process and other global environmental assessment processes, such as the Transboundary Water Assessment Programme and the proposed Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, particularly in terms of mandate, scope and deliverables. UN-Oceans members reiterated the view that the implementation of the Regular Process will require the engagement of all relevant United Nations programmes, funds and agencies.

409. With reference to the United Nations Atlas of the Oceans, UN-Oceans members agreed on the importance of sustained support for the Atlas to ensure its continuity.

410. Participants also discussed possible strategic planning for future directions of UN-Oceans. It was decided to create a task force on oceans outreach, to be chaired by IOC, in order to build on and seize opportunities to strengthen the visibility of UN-Oceans. The need to strengthen cooperation with similar mechanisms, such as UN-Water, was also highlighted.[582]

## D. Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection

411. The Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection held its thirty-seventh session in Bangkok in February 2010.[583] It discussed, in particular, issues related to the adopted strategic vision[584] and its ongoing revitalization process, which included reconnecting with the international marine science community and expanding its advisory activities in the last few years.[585]

412. As regards its contribution to the Regular Process, the Joint Group of Experts agreed to maintain its offer for delivery of specific functions in the Regular Process.[586]

413. The Joint Group of Experts established two new task teams under its Working Group 37, on expanded scientific review of mercury and its compounds and threats to the marine environment, which is led by UNEP. One task team will assist in gathering the scientific background for the preparation, by 2013, of a binding international agreement to protect the environment from releases of mercury and its compounds, and the second team will assist in identifying and filling scientific information gaps on lead and cadmium.

414. Concerning its mission,[587] the Joint Group of Experts identified new and emerging issues for further review at its next meeting in 2011.[588]

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[581] See also A/65/69, para. 111.

[582] See A/64/66/Add.1, para. 371.

[583] The full report of the session is available as Joint Group of Experts Reports and Studies No. 81 at www.gesamp.org.

[584] See Joint Group of Experts Reports & Studies No. 74 (2005).

[585] IMO contribution.

[586] For a text of its suggested contribution to the Regular Process, see annex VIII to the Joint Group of Experts Reports and Studies No. 81 at http://gesamp.org.

[587] Joint Group of Experts Reports and Studies No. 81.

[588] See annex VII to the Joint Group of Experts Reports and Studies No. 81.

415. In addition, the Joint Group of Experts held a special session on the link and collaboration between itself and 47 regional bodies on marine assessment methodologies to protect the marine environment in East Asia.[589]

# XV. Capacity-building activities of the Division for Ocean Affairs and the Law of the Sea

416. The Division continues to carry various types of capacity-building activities aimed at assisting States, in particular developing States, in the uniform and consistent application of the Convention and the 1995 Fish Stocks Agreement. These activities include fellowship programmes, the management of trust funds and the organization of briefings, workshops and training courses. The information provided herein supplements the compilation of capacity-building initiatives included in the report prepared by the Secretary-General to facilitate discussions at the eleventh meeting of the Informal Consultative Process (A/65/69). At that meeting, general support was expressed for the Division's capacity-building activities, and a call was made for financial contributions to the fellowships programmes and trust funds administered or co-administered by the Division, in particular.

## A. Hamilton Shirley Amerasinghe Memorial Fellowship on the Law of the Sea

417. In May 2010, Killey Mwitasi, from the United Republic of Tanzania, was awarded the twenty-third Hamilton Shirley Amerasinghe fellowship by the Under-Secretary-General for Legal Affairs, the Legal Counsel of the United Nations, on the basis of the recommendation of the High-Level Advisory Panel. Mr. Mwitasi is expected to start the studies/research phase of his fellowship in the fall of 2010 at the Marine and Environmental Law Institute, Schulich School of Law, Dalhousie University, Canada. He will continue with the practical phase at the Division from January to March 2011.

418. The financial state of the Fellowship remains critical despite contributions in 2009 and 2010 from Chile, Cyprus, Iceland and Oman. Contributions are needed to allow for at least one fellowship award annually. The twenty-third award was only made possible by the contribution of $38,000 made by the Legal Counsel, on an exceptional basis, from the Trust Fund for the Office of Legal Affairs to Support the Promotion of International Law.

419. In General Assembly resolution 64/71, Member States recognized the importance of the Fellowship to the capacity-building of developing countries and to the promotion of the law of the sea and urged States to contribute to it.[590] Moreover, the Fellowship is now part of the annual United Nations Pledging Conference for Development Activities. The Division has continued its fund-raising initiatives and sent a number of communications to Member States seeking contributions. Further information on the Fellowship is available on the website of the Division (www.un.org/depts/los).

[589] See Joint Group of Experts Reports and Studies No. 81.

[590] Resolution 64/71, para. 25.

## B. The United Nations-Nippon Foundation of Japan Fellowship Programme

420. The United Nations-Nippon Foundation of Japan Fellowship Programme continues to provide capacity-building opportunities to developing States in ocean affairs and the law of the sea and related disciplines, including marine science, in support of management frameworks.[591] The Programme is implemented in partnership with a diverse network of over 40 academic host institutions, and provides Fellows with customized and multidisciplinary programmes.[592]

421. The 2010-2011 Fellows, nationals of Bangladesh, Brazil, Colombia, the Congo, Indonesia, Malaysia, Papua New Guinea, Sierra Leone, the United Republic of Tanzania and Tonga, are currently undertaking their first phase placements with their respective academic host institutions.

422. A second regional alumni meeting was held in Barbados in May 2010 for the Latin America and Caribbean region, in conjunction with the Law of the Sea and Principled Ocean Governance training programme organized in collaboration with the Centre for Resource Management and Environmental Studies of the University of the West Indies, the International Ocean Institute (Canada) and the Marine Affairs Program and the Marine Environmental Law Institute of Dalhousie University.

## C. Training courses

423. Preparations for the final evaluation of the Train-Sea-Coast Programme are under way with the next step consisting of the finalization of contractual arrangements for the evaluator whose terms of reference have been agreed upon by the Global Environment Facility, the Division and the United Nations Office for Project Services.[593] The terminal evaluation is expected to deliver an objective evaluation report that documents project results and captures the performance against the set and agreed objectives. It will also identify factors that have facilitated or impeded the achievement of the objectives, consider the effectiveness, efficiency, relevance, impact and sustainability of the Programme and document and capture lessons learned that will provide lessons and best practices with a view to informing similar project initiatives. For information on the Programme and its catalogue of courses, see the website of the Division.[594]

424. The Train-Sea-Coast Global Programme of Action is an active inter-agency collaboration between the UNESCO-IHE Institute for Water Education, the Division and UNDP (see A/65/69, para. 193). The Programme of Action continues to deliver training courses on improving municipal wastewater management in coastal cities

[591] See also A/65/69, para. 126.

[592] Further information, including admissibility criteria, past Fellows' research papers, application files and an up-to-date list of participating host institutions, is available on the Fellowship web page (www.un.org/depts/los/nippon).

[593] The Division, the Global Environment Facility, UNDP and UNOPS are the main partners in the administration of the project.

[594] See www.un.org/Depts/los/tsc_new/TSCindex.htm.

and, with new funding from the European Union and the Global Environment Facility, is further expanding.[595]

425. Furthermore, the Division has finalized the training manual entitled "Ecosystem approaches to the management of ocean-related activities: Building on integrated coastal management to enhance the resilience of marine ecosystems to stressors, such as climate change".[596] This manual is expected to be published by the United Nations in 2011, subject to availability of resources. The training manual on the development, implementation and management of marine protected areas is currently being updated and should also be published subject to availability of resources.

## D. Trust funds

### 1. Commission on the Limits of the Continental Shelf

426. *Voluntary Trust Fund for the purpose of facilitating the preparation of submissions to the Commission on the Limits of the Continental Shelf for developing States, in particular the least developed countries and small island developing States, in compliance with article 76 of the United Nations Convention on the Law of the Sea.* A contribution to the Trust Fund was received from Ireland during the reporting period. According to the provisional statement of accounts, the Trust Fund balance at the end of June 2010 was approximately $602,081.12. Since June 2009, grant agreements have been concluded with Costa Rica, Kiribati and Sierra Leone.

427. *Voluntary Trust Fund for the purpose of defraying the cost of participation of the members of the Commission on the Limits of the Continental Shelf from developing States in the meetings of the Commission.* During the reporting period, contributions to the Trust Fund were received from Argentina, China, Ireland, Mexico, New Zealand, Norway and the Republic of Korea, while Japan made a pledge for a future contribution. According to the provisional statement of accounts, the Trust Fund balance at the end of June 2010 was estimated to be $539,794.29. Assistance from the Trust Fund was provided to eight members of the Commission to facilitate their participation in the twenty-fifth and twenty-sixth sessions of this body.

### 2. Voluntary Trust Fund for the purpose of assisting developing countries, in particular least developed countries, small island developing States and landlocked developing States, in attending meetings of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea

428. Representatives from the following 11 countries, including five panellists, received assistance from the Voluntary Trust Fund in the form of airline tickets to attend the eleventh meeting of the Consultative Process in June 2010: Bahamas, Comoros, Fiji, Indonesia, Madagascar, Mozambique, Nepal, Solomon Islands, Swaziland, Togo and Vanuatu. Daily subsistence allowance was provided to two panellists, from Madagascar and Togo, in accordance with General Assembly resolution 62/215. According to the provisional statement of accounts for the period ending June 2010, the Trust Fund balance was estimated at $24,501.

[595] See www.training.gpa.unep.org/content.html?id=35&ln=6.

[596] The title of the manual has been changed to reflect update and better focus.

### 3. Voluntary Trust Fund for the International Tribunal for the Law of the Sea

429. There have been no applications to the Voluntary Trust Fund since the application by Guinea-Bissau in 2004. A contribution to the Trust Fund was received from Finland in 2009. As of 30 June 2010, according to the provisional statement of accounts, the Trust Fund balance was estimated at $142,553.47.

### 4. Voluntary Trust Fund for the Regular Process for global reporting and assessment of the state of the marine environment, including socio-economic aspects

430. The Trust Fund was established by General Assembly resolution 64/71. One contribution to the Trust Fund was received from Iceland in 2010. According to the provisional statement of accounts for the period ending June 2010, the Trust Fund balance was estimated at $30,000, which sum was used in connection with the meeting of the Ad Hoc Working Group of the Whole held from 30 August to 3 September 2010

### 5. Assistance Fund under Part VII of the United Nations Fish Stocks Agreement

431. FAO presented the financial report on the status of the Assistance Fund to the resumed Review Conference on the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, held in May 2010. As at 31 December 2009, the financial contributions made to the Assistance Fund, together with the accrued interest, totailed $886,985. The total expenditures of the Fund, including unliquidated commitments, amounted to $735,744. The current balance stood at approximately $61,241, taking account of funds already committed for 2010 travel, administrative expenses and provision for the Mozambique project. At the resumed Review Conference, one delegation announced its pledge to donate $100,000 to the Fund.[597]

432. In 2009, 29 travel applications were funded. Total expenditure from the Fund was $332,521, which was 128 per cent higher than in 2008. Of such expenditure, 23.6 per cent supported participation in sessions of regional fisheries management organizations and arrangements, 22.4 per cent supported participation in meetings of global organizations, 13.0 per cent supported participation in negotiations to establish new regional fisheries management organizations and arrangements and a Pacific Islands workshop to assist Pacific Island countries to prepare for and participate more fully in the final round of negotiations for the South Pacific Regional Fisheries Management Organization, 14.4 per cent supported the finalization of work for the development of a regional shark plan for the Pacific Islands, 22.3 per cent supported capacity-building activities through two South Pacific regional workshops, and 4.4 per cent was devoted to meeting administrative costs. No expenditure was incurred for facilitating exchange of information and experience on the implementation of the Agreement or for dispute settlement.[598]

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[597] Paragraph 19 of the report of the resumed Review Conference, available at www.un.org/Depts/los/convention_agreements/reviewconf/review_conference_report.pdf.

[598] A/CONF.210/2010/2, paras. 5-7.

# XVI. Conclusions

433. Preserving the capacity of the oceans to regulate the global climate, support essential ecosystems and provide sustainable livelihoods and safe transport and recreation is essential for the long-term prosperity of humankind. The oceans and seas are also an important frontier for research, as the scientific discoveries related to forms of marine life as yet unknown bring the potential to advance human well-being.

434. This report has provided an overview of the considerable challenges still faced by the international community in the sustainable development of the oceans and their resources as human activities are taking a toll on the world's oceans and seas. Vulnerable marine ecosystems, such as corals, and important fisheries are being threatened by over-exploitation, illegal, unreported and unregulated fishing, destructive fishing practices, invasive alien species and marine pollution. The disastrous consequences of the grounding of a bulk carrier on the Great Barrier Reef and of the explosion and sinking of an offshore drilling unit in the Gulf of Mexico in April 2010 show that the marine environment remains highly vulnerable to pollution resulting from major accidents linked to activities at sea. In some instances, these incidents also suggest the need to consider whether further regulatory measures at the international and national level may be required.

435. Increased sea temperatures, sea level rise and ocean acidification caused by climate change pose a further threat to marine life, coastal and island communities and national economies. As the International Year of Biodiversity is celebrated in 2010, it is largely recognized that the target set by the 2002 World Summit on Sustainable Development to significantly reduce the rate of biological diversity loss, including marine biodiversity, as a contribution to poverty alleviation and to the benefit of all life on Earth has not been met.

436. Piracy and armed robbery at sea continue to threaten the lives of seafarers and the safety of international shipping, causing considerable economic damage through higher transportation costs, including insurance costs. Trafficking of persons by sea and criminal activities related to the smuggling of illegal drugs also continue to endanger human lives and peace and security in the oceans.

437. Unresolved maritime boundaries delimitations, together with the slow process of deposit of charts and lists of geographical coordinates of points with the Secretary-General concerning maritime limits as well as the ensuing lack of centrally available standardized information thereon, present considerable challenges for the users of the sea who need to be aware of the legal status of the maritime zones relevant to their activities and the applicable jurisdiction.

438. The Commission on the Limits of the Continental Shelf, whose recommendations are crucial for the delineation of the limits of the shelf beyond 200 nautical miles and, consequently, for the establishment of the limits of the Area, is facing a considerable workload. Putting the Commission in a position to work on a full-time basis appears to be the most efficient and effective option to address the massive workload of the Commission and allow it to discharge its functions.[599]

[599] See SPLOS/218, para. 7.

439. Numerous efforts, as outlined in this report, are under way to address the pressures and challenges faced by the oceans. At the core of these efforts lies the necessity to build the capacity of States to adhere to, implement and enforce relevant international instruments, foremost of which the United Nations Convention on the Law of the Sea.